Kodak

i7300 Scanner

User's Guide

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1 Introduction

The *Kodak* i7300 Scanner Application Software controls the *Kodak* i7300 Scanner and the *Kodak Digital Science* Intelligent Microimage Scanner. The scanner is a 16 mm film retrieval subsystem that is interfaced with a personal computer (PC). The compact film drive and application software enable:

- automatic retrieval of images on 16 mm roll microfilm with or without image marks

- scanning of the image with a charged coupled device (CCD)

- image processing and display of the digitally scanned image on the PC

- tools to maximize the image quality including editing and annotating

- delivery of the digital image to the person requesting the image via standard PC utilities

For the purpose of this manual, the *Kodak* i7300 Scanner and the *Kodak Digital Science* Intelligent Microimage Scanner will be referred to as the ***scanner***. If something is specific to one scanner or the other, it will be noted.

Product features

The *Kodak* i7300 Scanner Application Software provides the following features:

- **Easy to use interface** — all the tools and procedures you need are accessible via icons, toolbars, and pull-down menus. A familiar Microsoft Windows software format also makes it easy to learn.

- **Improved imaging performance** — choose Normal or Enhanced for high-resolution scanning results in a high quality bi-tonal or gray scale image.

- **Image processing** — the powerful algorithms of the application software deliver high quality images.

- **CAR capability** — the application software can be setup to accept CAR (Computer-Aided Retrieval) commands by adding an optional *Kodak* CAR Interface Software to the standard application software. The CAR 278 Interface, CAR 278 Synchronous Interface Unit or Hostlink for Micrographics by eiStream Kofile may be required for interfacing with mainframe computer systems.

- **On-line help** — the on-line help facility provides access to complete procedures on how to use the software.

NOTE: Even though the i7300 Scanner Application Software works with the Intelligent Microimage Scanner, the Intelligent Microimage Scanner will not scan images as fast as the i7300 Scanner, nor can the Intelligent Microimage Scanner do whole roll conversions.

System requirements

See the Installation Planning Guide, A-61405 for software and hardware requirements.

Using this manual

This User's Guide describes the functions and procedures of the *Kodak* i7300 Scanner Application Software.

Chapters 2, 3 and 4 are directed toward individuals who are responsible for retrieving images. These individuals must have a working knowledge of PCs and the Microsoft Windows operating environment. In addition to computer and retrieval operation skills, a basic understanding of digital imaging is helpful.

Chapter 5, *Setting up CAR Applications,* is directed towards users of systems in which the *Kodak* CAR Interface Software has been installed.

Chapters 6, 7 and the appendices are intended for the system administrator who is responsible for configuring and maintaining the Scanner Application Software.

2 Getting Started

The main window

This chapter describes the menus, toolbars and Control Panel that are available when using the *Kodak* i7300 Scanner Application Software.

Some menu options, when selected, will perform the action immediately. Other menu options, those options followed by three dots (…), will display a dialog box. If an option on the menu is checked (√), the option is enabled. More information regarding dialog boxes and how to use them can be found in Chapter 3, *Using the Software*.

The main window contains the following elements:
- Title bar
- Menu bar
- Image display pane
- Image Retrieval keypad

These elements can be optionally displayed:
- Toolbar
- Control Panel
- Status bar
- Documents/Folder pane
- Thumbnail pane

Title bar   Menu bar   Toolbar   Control Panel   Image Retrieval keypad   Status bar   Documents/Folder pane   Thumbnail pane   Image display pane
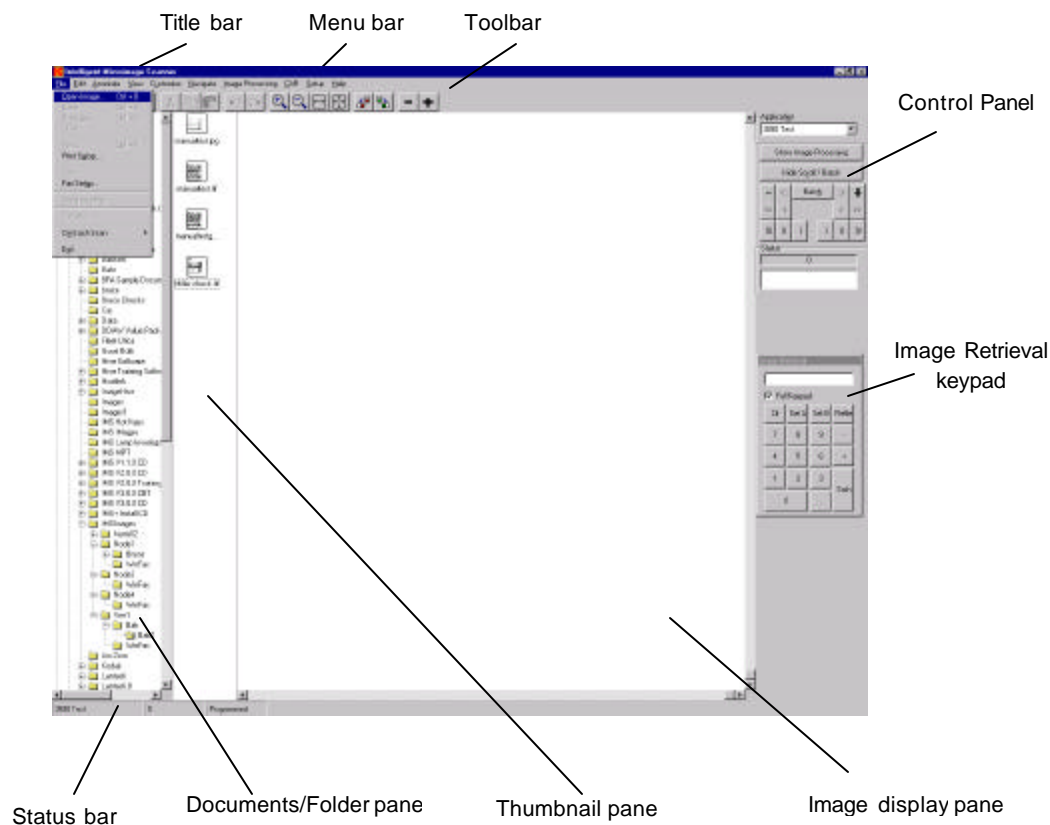
The Title bar   The Title bar provides the title of the Scanner Application Software.

The Menu bar   The Menu bar provides the following menu options:

File Edit Annotate View Customize Navigate Image Processing CAR Setup Help

The following summarizes the functions associated with each menu:

File — allows you to open, save and route images, print, fax or e-mail images, access information on the current image and exit the scanner session.

Edit — allows you to cut, copy, paste and crop information in images and access duplex processing.

Annotate — allows you to add new information to images.

View — allows you to control the fit of the displayed image in the window and orientation. Also allows mirroring and zooming of displayed images, arranging of icons in the Thumbnail pane, activation of the Image Retrieval keypad and viewing of various display features, e.g., the Toolbar, Thumbnails. Provides access to the Error Log.

Customize — allows you to customize the toolbar, keyboard and manipulate the Control Panel location.

Navigate — allows you to search for images on film, perform batch processing, stop film movement, scan through multiple images within a chapter, clear the Image Retrieval keypad, connect to and use the *Kodak* Image Server Software, refile the film and provides access to the Scan Multiple dialog box and the Scrolling commands

Image Processing — allows you to enhance a retrieved image by utilizing despeckle, deskew, auto-crop or border removal.

CAR — appears if you have the *Kodak* CAR Interface Software installed, the accessory allows the scanner host PC to accept CAR commands.

NOTE: If you have purchased CAR functionality and *CAR* does not appear on the menu bar, call Kodak service.

Setup — allows you to create and modify retrieval applications, calibrate the scanner and set up the film controller (Film Controller is for Kodak FE use only).

Help — allows you to access on-line help for the Application Software, and current version numbers.

NOTE: The keyboard shortcuts displayed on the menus in this chapter may be different depending on how you have customized your keyboard.

The File menu

The File menu provides the following options:

```
File  Edit  Annotate  View
Open Image...    Ctrl+O
Save             Ctrl+S
Save As...
Close

Print...         Ctrl+P
Print Setup...

Fax...
Fax Setup...

Send As eMail...

File Info

On Each Scan           ▶

Exit
```

Open Image… — displays the Open Image dialog box, which allows you to open a previously saved image from this application or other applications. You cannot open multi-page TIFF files, from **File>Open Image**. See Chapter 3, *Using the Software* for more information.

Save — allows you to save an image using the file saving options specified in Application setup.

Save As… — displays the Save As dialog box, which allows you to save an image with a user-specified name, format, compression and location. See Chapter 3, *Using the Software* for more information.

Close — closes the image that is currently displayed and removes it from the display.

Print… — if a printer is available on the PC you are using (either local or via the network), a dialog box will be displayed allowing you to print using default or modified print options including Print Annotation. The Print function allows you to print an image, selected images or the entire contents of a folder. The Print Options dialog box is described in Chapter 3, "Printing an image".

Print Setup… — if a printer is available on the PC you are using, a dialog box will be displayed allowing you to specify default print options.

Fax … — if a fax utility is available on the PC you are using, this option allows you to fax an image, selected images or the entire contents of a folder. The Fax Options dialog box is described in Chapter 3, "Faxing an image".

Fax Setup… — if a fax utility is available on the PC you are using, this option allows you to set up a fax connection.

Send as e-mail… — if an e-mail utility (MAPI-compliant) is available on the PC you are using, this option allows you to send an image, selected images or the entire contents of a folder to a specified e-mail address.

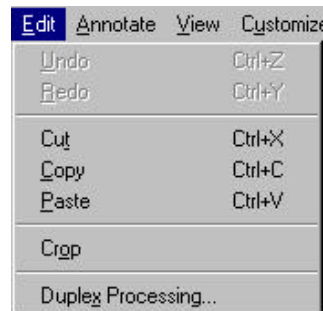NOTE: If you encounter errors when attempting to use the Print, Print Setup, Fax, Fax Setup, or Send as e-mail options, contact your System Administrator.

File Info — provides bits/pixel, width, height, resolution and if the file has been modified. After the file has been saved, File Info also provides the file name, file size, file date and file type.

On Each Scan — allows you to automatically save and/or print each image displayed within a session.

Exit — closes the scanner session.

The Edit menu

The Edit menu provides the following options:

Edit	Annotate	View	Customize
Undo			Ctrl+Z
Redo			Ctrl+Y
Cut			Ctrl+X
Copy			Ctrl+C
Paste			Ctrl+V
Crop			
Duplex Processing...			

Undo — cancels the last edit action.

Redo — repeats the last edit action.

Cut — removes the selected image or portion of an image from the display and places it on the Windows clipboard.

Copy — allows you to copy a complete image or portion of an image to the Windows clipboard without removing it from the display.

Paste — copies any image content data that is currently on the Windows clipboard into the current image. The image data you copy will be pasted in the upper left corner of the image. Use the mouse cursor to drag the image data to the desired location.

Crop — allows you to draw a rectangle around a specific area of an image and discard any information outside of the rectangle.

Duplex Processing… — provides the option of arranging the front and back sides of an image from duplex film vertically rather than horizontally (side by side). Duplex processing is generally used for check applications with duplex or duo duplex film. See Chapter 3, *Using the Software* for procedures on how to use this function.

NOTES:

- After using the Undo, Cut, Paste, Crop or Duplex Processing functions, no further image processing changes can be made from the Control Panel. Use these functions after all image processing changes are made, but before Annotating, Saving and Printing.

- The Control Panel is not effective when viewing an image opened from a file.

The Annotate menu   The Annotate menu provides the following options:

```
✓ No Tool
  Redact
  Popup
  Highlight
  Hollow Rectangle
  Text
  Freehand Line
  Arrow
  Select
  Image
  Polyline
  ──────────────────────
  Load Image...
  ──────────────────────
  Canned                    ▶
```
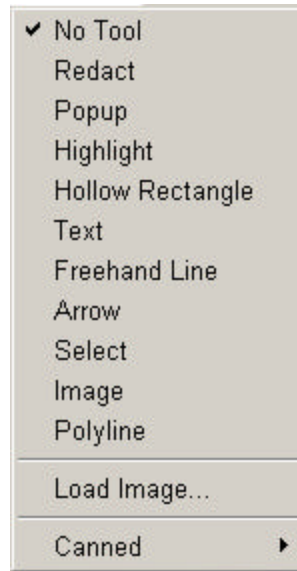
NOTE: When using these options, the Annotation toolbox should be displayed which allows you to take advantage of all the options. When applicable to an option, the Annotation toolbox provides the ability to specify color and line width. To display the Annotation toolbox, select **View>Annotation Toolbox.** For more information on the Annotation Toolbox see the section entitled "The Annotation toolbox" later in this chapter.

No Tool — allows the cursor to be used for rubber-band selection.

Redact — allows you to blank out a portion of an image.

Popup — displays a dialog box, which allows you to attach a note to an image.

Highlight — allows you to draw a filled rectangle but with a transparent color selected from the Annotation toolbox.

Hollow Rectangle — allows you to draw a rectangular border around a portion of an image.

Text — allows you to place the mouse cursor in an area on the image and type a message at that location. Font and type style can be selected by using the Annotation toolbox.

Freehand Line — displays a pencil that can be used to draw freehand.

Arrow — allows you to draw arrows. The Annotation toolbox can be used to specify line width, color and arrowhead direction and type.

Select — allows you to edit previously created text, move and/or resize previously created arrows, boxes, etc.

Image — displays the Open dialog box, which allows you to select a Windows bitmap image to overlay on the currently displayed image (e.g., Approved, Paid, Canceled, etc), like a rubber stamp.
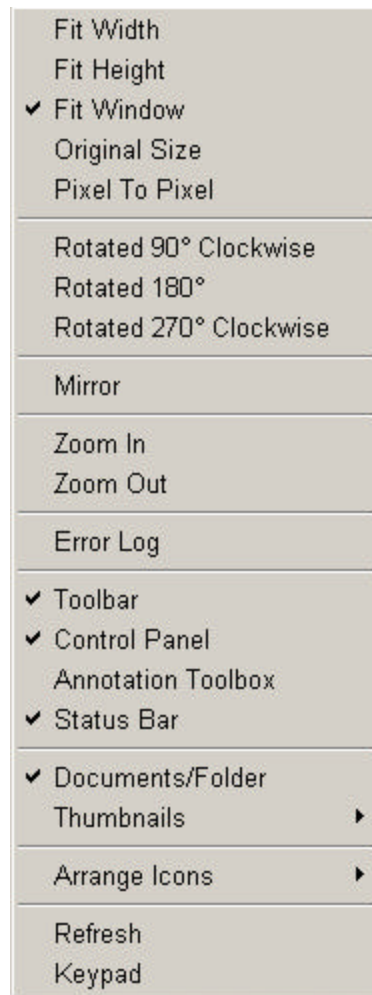
Polyline — allows you to draw a series of line segments by connecting points.

Load Image… — displays the Load Image dialog box, which allows you to load a different image file into memory. See Chapter 3, *Using the Software* for more information.

Canned — allows you to save annotation created for an image, for use on other images. See Chapter 3, *Using the Software* for more information.

The View menu

The View menu provides the following options:

```
    Fit Width
    Fit Height
  ✔ Fit Window
    Original Size
    Pixel To Pixel
  ─────────────────────
    Rotated 90° Clockwise
    Rotated 180°
    Rotated 270° Clockwise
  ─────────────────────
    Mirror
  ─────────────────────
    Zoom In
    Zoom Out
  ─────────────────────
    Error Log
  ─────────────────────
  ✔ Toolbar
  ✔ Control Panel
    Annotation Toolbox
  ✔ Status Bar
  ─────────────────────
  ✔ Documents/Folder
    Thumbnails              ▶
  ─────────────────────
    Arrange Icons           ▶
  ─────────────────────
    Refresh
    Keypad
```

Fit Width — allows you to display the image so the entire width of the image fits in the Image display pane. The vertical scroll bar may be required to view the entire length of the image.

Fit Height — allows you to display the image so the entire length of the image fits in the Image display pane. The horizontal scroll bar may be required to view the entire width of the image.

Fit Window — allows you to display the entire length and width of the image so it fits in the Image display pane. No scroll bars are necessary to view the entire image.

Original Size — displays the image magnified to its original size.

Pixel to Pixel — allows you to view the image at the pixel level. Clicking on **Pixel to Pixel** is similar to zooming in on an image. The horizontal and/or vertical scroll bars may be required to view the entire image.

Rotated 90° Clockwise — allows you to rotate an image 90 degrees to the right (clockwise). Rotation is based upon the original displayed position of the image.

Rotated 180° — allows you to rotate an image 180 degrees. Rotation is based upon the original displayed position of the image.

Rotated 270° Clockwise — allows you to rotate an image 270 degrees to the right (clockwise). Rotation is based upon the original displayed position of the image.

Mirror — this option is used when a roll of film has been wound incorrectly on the reel and the image appears as if it was being viewed in a mirror and is "reverse-reading". When **Mirror** is selected, it allows you to reverse the displayed image to make it read left to right.

For example, if the film is wound incorrectly, the image would appear like the following:

Using the **Mirror** option, the image is changed to:

NOTES:

- After using the Rotated or Mirror functions, no further image processing changes can be made from the Control Panel. Use these functions after all image processing changes are made, but before Annotating, Saving and Printing.

- The Control Panel is not effective when viewing an image opened from a file.

Zoom In — enlarges the displayed image.

Zoom Out — reduces the displayed image.

Error Log — displays the Error Log dialog box which shows the messages and errors that occurred for the current scanner session. The messages posted in the Error Log are normal system messages and can be both informational and critical messages. For troubleshooting information regarding these messages, see Chapter 6, *Troubleshooting*.

The dialog box is cleared automatically when the application software is exited. Errors and messages are saved permanently in an error log on the system.

You can change the width of the columns by placing the cursor on the column divider line. When the cursor changes to a horizontal size bar, press and hold the left mouse button and drag the cursor to the right or left until the desired size of the column is achieved.
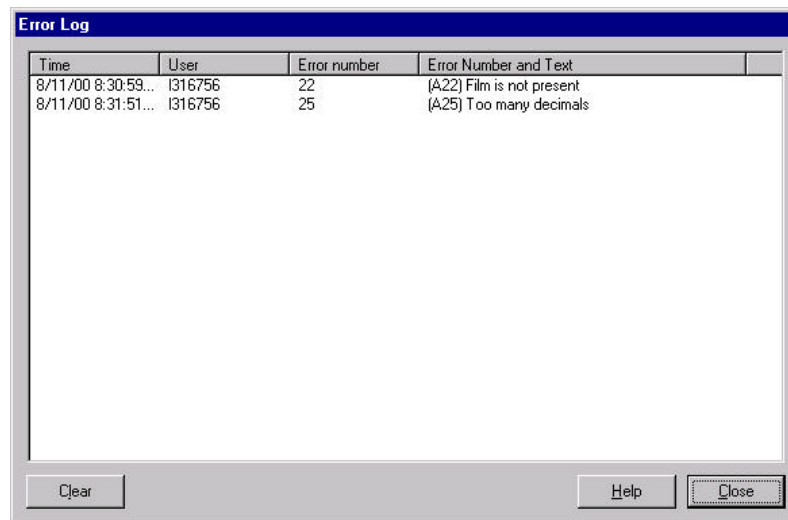
Viewing or hiding View menu options

You can view or hide the following features using the View menu:

- Toolbar
- Control Panel
- Annotation Toolbox
- Status bar
- Documents/Folder pane
- Thumbnails pane

When a check mark is displayed next to the menu option (as shown below), the feature will be visible and active.

NOTE: If you want Thumbnails displayed, you need to select **Thumbnails** and the way in which you want it displayed (i.e. Small Icons, Large Icons, etc.) every time you open the application.
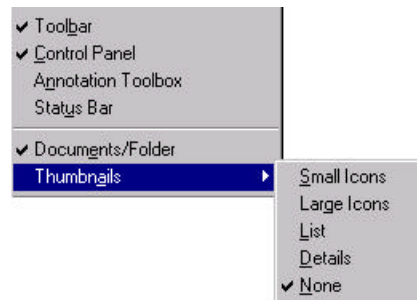
To hide a feature:

- Click on the menu option to deselect it. The check mark will disappear from the menu and the feature will disappear from the PC display.

Arrange Icons — the icons in the Thumbnail pane can be arranged by name, type, size or date.

Refresh — refreshes the Document/Folder pane and Thumbnails if displayed.

Keypad — allows you to activate the Image Retrieval keypad.

NOTE: Assigning a shortcut key to the Keypad function will increase productivity.

The Customize menu   The Customize menu provides the following options:

Customize Navigat
Control Panel ▶
Keyboard...
Toolbar...
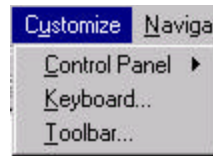
Control Panel — allows you to position the Control Panel to the right or left of the window, or to hide it.

Keyboard… — allows you to assign commonly used commands to function keys or a combination of keys.

Toolbar… — allows you to specify what tools you want displayed on the toolbar.

Customizing your keyboard   You can customize your keyboard so you can work more efficiently by assigning shortcut keys or setting up a pattern of keystrokes instead of choosing menu items or toolbar functions. The following procedure explains how to assign and unassign shortcut keys.

Kodak provides default keyboard shortcuts, for more information see Appendix D, *Productivity Tools*.

Assigning shortcut keys

1. Select **Customize>Keyboard…** The Customize Keyboard dialog box will be displayed:

Customize Keyboard

Menu Entries

Menu Entry	Shortcut
Undo	(None)
Redo	(None)
Cut	(None)
Copy	(None)
Paste	(None)
Crop	(None)
Duplex Processing...	(None)

New Shortcut
None   Assign

OK
Cancel
Help
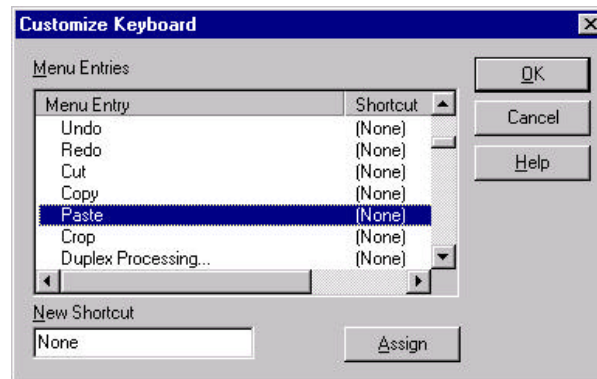
2. The list in the Menu Entries box corresponds with the Menu bar. Shortcuts can be assigned only at the lowest menu level, e.g., **File>On Each Scan>Auto Save.** To move quickly to a first-level menu choice, select **File**, then type the first letter of the desired choice (e.g., **N** to go to Navigate).

3. Place the cursor in the New Shortcut field and enter the desired shortcut. Valid entries include any individual alphanumeric character or function key used in conjunction with the Ctrl+Alt or Ctrl keys. The function keys can also be used alone. Examples of valid shortcuts: Ctrl+Alt+S, Ctrl+F11, F8, Shift+F2.

   NOTES:

   - When you assign a shortcut key, **do not** assign F1 or F10, and be sure the shortcut key is not assigned to another function.

   - The Alt key cannot be used alone when you are assigning shortcut keys. You must use Ctrl with the Alt key (i.e., Ctrl+Alt).

   - If you want multiple PCs to be set up with the same shortcut key assignments, contact Kodak service.

4. Click **Assign**.

5. Assign any other shortcut keys desired using Steps 2 through 4.

6. When finished, click **OK**.

Unassigning shortcut keys

1. Select the desired menu item from the Menu Entries list box.

2. If **None** is displayed in the New Shortcut field, click **Assign**. If a shortcut is displayed in the New Shortcut field, place the cursor in the New Shortcut field and click **Assign.** Press the spacebar. **None** will be displayed in the New Shortcut field.

3. Unassign any other shortcut keys as desired.

4. When finished, click **OK**.

Customizing the toolbar

You can customize the toolbar to display only the toolbar buttons you want to use. To do this:

- Select **Customize>Toolbar…** The Customize Toolbar dialog box will be displayed:
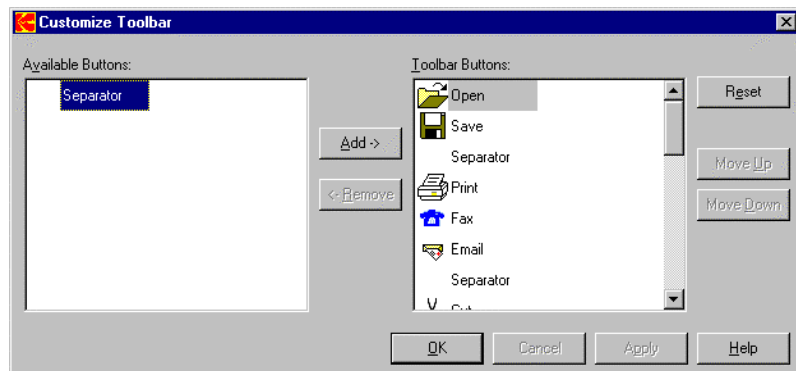
To add buttons to the toolbar:

1. Select the button that you would like to add to the toolbar from the Available Buttons list box.

2. Click **Add**. The button you selected will be added to the toolbar.

3. Add as many buttons as desired.

4. When finished, click **OK**.

To remove buttons from the toolbar:

1. Select the button you want to remove from the toolbar from the Toolbar Buttons list box.

2. Click **Remove**. The button you selected will be removed from the toolbar.

3. Remove as many buttons as desired.

4. When finished, click **Close**.

To rearrange buttons on the toolbar:

1. Select the button to be moved on the Toolbar Buttons list box.

2. Click on the **Move Up** or **Move Down** button.

3. Move as many buttons as desired.

4. When finished, click **Close**.

The button at the top of the Toolbar Buttons list box will be the first button on the left if the toolbar is in the horizontal position.

NOTE: At any time, you can select **Apply** to preview the changes on the toolbar or **Reset** to return to the default toolbar.

The Navigate menu

The Navigate menu provides the following options:
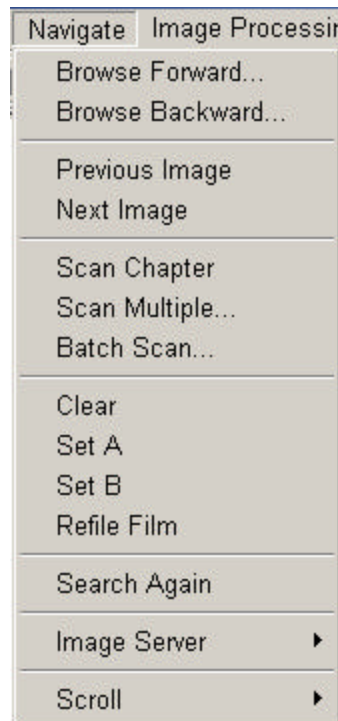
Browse Forward… and **Browse Backward…** — allows you to automatically browse forward or backward one image at a time through a series of contiguous images, pausing for a number of milliseconds (of your choice) at each image before moving to the next image. There is a minimum display time while the next image is being scanned and processed. For more information see the section entitled, "The Control Panel" later in this chapter.

Previous Image — moves one image backward from the image that is currently displayed.

Next Image — moves one image forward from the image that is currently displayed.

Scan Chapter — allows you to scan through multiple images within a chapter for printing.

Scan Multiple…. — displays the Scan Multiple dialog box which allows you to enter the number of copies of the displayed image you want to print.
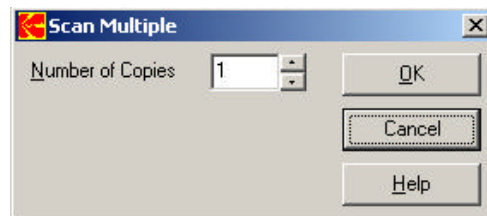
Batch Scan… — scans a specified group of images, which do not have to be contiguous or continuous. The images must be automatically saved to a directory and/or printed. See the section entitled, "Batch scan" in Chapter 3 for more information.

Clear — used to clear information from the Image Retrieval keypad text box, and stop any film movement (i.e., searching, refiling, etc.).

Set A ¾ when used with the number keys, allows you to preset the starting image address for Channel A or change the current Channel A image address.

Set B ¾ when used with the number keys, Set B allows you to preset the starting image address for Channel B, preset the last image address for Channel B (duo film), or change the current Channel B image address.

Refile Film — when selected, rewinds the film currently in the scanner. When completed, the film magazine can be safely removed.

Search Again — when the image found by a search is not readable (e.g., there was a jam or other error during filming) and you know that the image was filmed again with the same image address elsewhere on the film, **Search Again** allows you to search for the next occurrence of the image address on the film. Search Again is also useful when related images on the roll have the same image address. Search Again is used in conjunction with Random Batch Code.

Image Server — allows you to connect to the Image Server Dispatchers and Image Server Software. In addition you can send scanned images to the Image Server Software, so that individual images or a folder of images can be printed, faxed, or emailed. For more information, see Chapter 7, *Network Operations*.

Scroll — provides a drop-down list of speed and directions to scroll the film from the current position (i.e., Fast Forward, Fast Backward, Slow Forward, etc.). Once the direction is selected, the images will be viewed in the Scrolling window while the film is moving. The Scrolling in Progress dialog box is displayed during scrolling. When the desired image is displayed, click **Stop** or **Process** in the dialog box. Select **Process** to prepare the image for printing, faxing, emailing or saving.

NOTES:

- Selecting **Stop** will exit the Scrolling function.
- The image address displayed on the Status bar may not match the image displayed on the screen.
- During scrolling you can use the Zoom functionality to enlarge (by rubber-banding and right-mouse clicking the area you want to zoom in on) or reduce (right-mouse click) the image for easier viewing.

Pause – momentarily stops the film at the selected image until you select **Resume**. When you select **Resume**, scrolling will begin at the image where it left off when Pause was selected.

Scrolling Forward in Progress
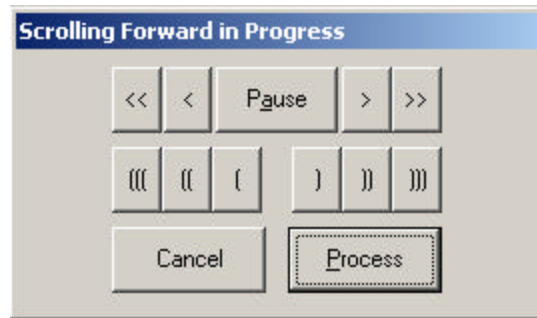
How you process your image is dependent upon how your application is set up. One of the following methods is available:

- If your application is set up for Manual or Automatic Duplex Processing, the Duplex Processing dialog box will be displayed. For more information see Chapter 3, "Setting Manual and Automatic duplex processing".
- If your application is not set up for duplex processing, the Select Overscan dialog box will be displayed. For more information see "The Image Processing Control Panel" later in this chapter.

The Image Processing menu

The Image Processing menu provides the following options for the currently displayed image (bi-tonal images only):

```
Image Processing  CAR
  Despeckle
  Deskew
  Manual Deskew...
  Border Remove
  Auto Crop
```
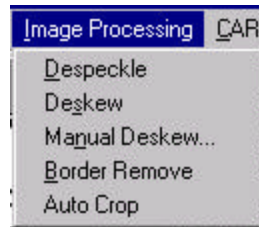
Despeckle — reduces the amount of noise and specks, etc. Successive use of the menu will cycle through the values of 0, 1, 2.

Deskew — automatically straightens the displayed image using a default deskew amount.

Manual Deskew… — displays the Manual Deskew dialog box, from which the image can be deskewed by a specified amount.

```
Manual Deskew                  ×
  Enter Degrees:         OK
  [1]  ▲▼              Cancel
                        Help
```
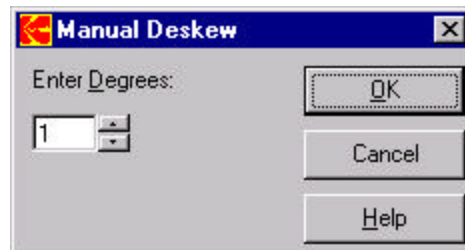
- Enter the amount of the angle to rotate the image. A positive number will rotate clockwise. A negative number will rotate counterclockwise.

- Click **OK** when finished.

Border Remove — removes the borders from around the scanned image, but maintains the physical image size.

Auto Crop — automatically discards the border of an image.

NOTES:

- After using the Undo, Cut, Paste, Crop or Duplex Processing functions, no further image processing changes can be made from the Control Panel. Use these functions after all image processing changes are made, but before Annotating, Saving and Printing.

- The Control Panel is not effective when viewing an image opened from a file.

The CAR menu

The CAR menu provides the following options:

```
CAR  Setup  Hel
  Setup        ▶
  Ready!
  Download     ▶
  Registers    ▶
  Monitor...
```

Setup — allows you to associate a retrieval application with a CAR mode and configure the CAR communication port.

Ready — signals back to the CAR system that it is ready to receive downloads, batch downloads or direct commands. *Applicable only when using the CAR Interface Software configured as listen-talk.*

Download — allows you to perform download operations. The CAR commands do not need to be loaded into registers during these downloads.

Registers — allows you to save, load, view and clear registers. You can also display the contents of a range of registers by selecting **Start Batch**. The contents of the registers cannot be changed.

Monitor — allows you to stop and resume execution of CAR commands to perform image processing functions or use the menu functions.

For more information regarding the *Kodak* CAR Interface Software, see Chapter 5, *Setting up CAR Applications*. Appendix C, *Glossary*, also provides some common terms and definitions regarding CAR.

NOTE: The CAR menu item only appears on the menu bar if you have purchased the CAR Interface Software. If you purchased the CAR Interface Software, and CAR does not appear on the menu bar, call Kodak service.

The Setup menu

The Setup menu provides the following options:

> Setup Help
> Application...
> Film Controller...
> Calibration...
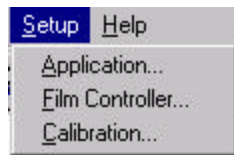
Application… — displays the Select Application dialog box, which provides access to create a new application(s) and modify or delete an existing application(s). See Chapter 4, *Application Setup* for more information.

Film Controller… — ***this option is for Kodak Field Engineer use only and should not be changed.*** Film Controller allows the selection of the COM port the scanner and the PC running the Scanner Application Software are attached to. The Film Controller dialog box also displays the scanner firmware version, thread-up attempts and successful scans.

> **Film Controller** ✕
>
> Com2 ▼   Start
>
> Firmware Version: Stop
> +0050208
>
> ThreadUp Attempts: Help
> 00000847
>
>   Close
> Successful Scans:
> 00111826
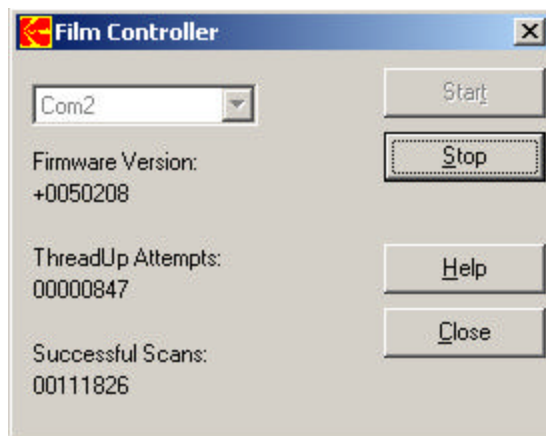
Calibration… — displays the Calibrate dialog box, which allows you to calibrate the scanner. Calibration typically takes less than 15 seconds to complete and should be done each time the scanner is turned on.

NOTE: Do not attempt to thread film during Calibration.

> **Calibrate** ✕
>
> ☑ Perform Pixel Correction   OK
> ┌Action──────────┐   Cancel
> │Ready   │
> └────────────────┘   Calibrate
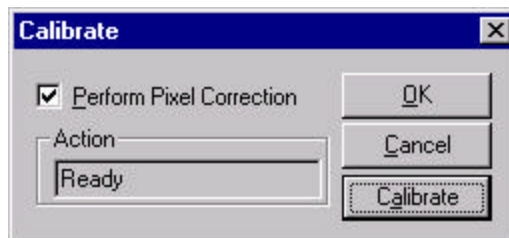
For more information regarding calibration, see Chapter 3, *Using the Software.*

The Help menu

The Help menu provides the following options:

Help
i7300 Scanner Help
Contents and Index
About
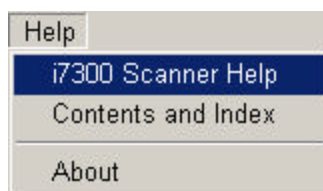
i7300 Scanner Help — displays the contents of the Application Software on-line help topics, including menus, procedures, glossary terms and messages.

Contents and Index — displays the Help Topics dialog box. The Index tab provides an alphabetic listing of information associated with the Application Software. You can enter the word or string of words you want information about in the text edit field. The Find tab allows you to search for specific words and phrases in the Help topics.

About… — displays a window containing software copyright and version information.

Kodak
i7300 Scanner Application Software

For WINDOWS 2000, 98, XP, and NT 4.0 SYSTEMS

Version 1.0.0

Developed for Eastman Kodak Company by ScreenScan Systems.
© Eastman Kodak Company, 1999-2003. portions copyright ScreenScan Systems. TM: Kodak.
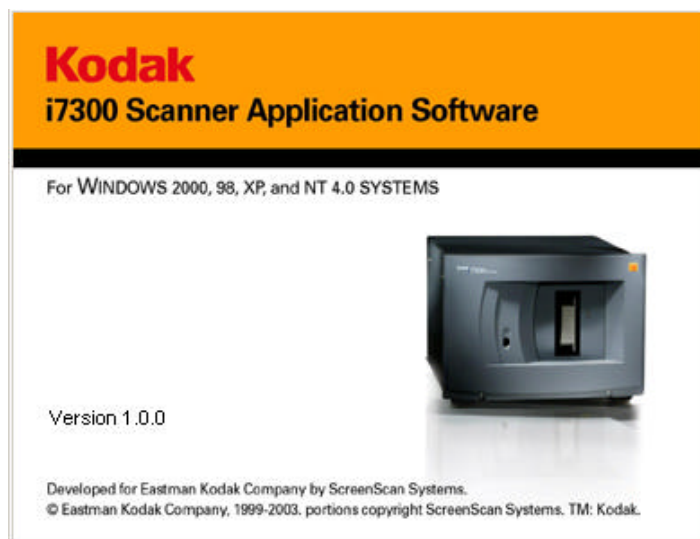
The Toolbar
If the toolbar is not displayed, it can be displayed by choosing **View>Toolbar.** Procedures on how to use these functions are included in this section or Chapter 3, *Using the Software*. Most of these options can also be accessed from the menus.

The following table provides the toolbar options and a brief summary of their function:

Button	Description
	Open Image — allows you to open an image previously saved to a file.
	Save —saves the image to the root directory and with the file naming convention specified in Application setup.
	Print — allows you to print the displayed image to the default printer. NOTE: Print capability is a customer-supplied utility to the PC. It is not provided by Kodak.
	Fax — allows you to fax the displayed image to the default fax machine. NOTE: Fax capability is a customer-supplied utility to the PC. It is not provided by Kodak.
	E-mail — allows you to e-mail the displayed image. When selected, a Send To dialog box will be displayed. NOTE: E-mail capability is a customer-supplied utility to the PC. It is not provided by Kodak. When using web-based "free" E-mail services, you must manually attach the images.
	Cut ¾ removes the selected image or portion of an image from the display and places it on the Windows clipboard.
	Copy — allows you to copy a complete image or portion of an image to the Windows clipboard without removing it from the display.
	Paste — copies any image data that is currently on the Windows clipboard into the current image.
	Undo — cancels the last edit action.
	Redo — repeats the last edit action.

Button	Description
⊕	**Zoom In** — allows you to enlarge the image on the display.
⊖	**Zoom Out** — allows you to reduce the image on the display.
↔	**Fit Width** — resizes the image so the entire width of the image fits in the Image display pane.
⊕	**Fit Window** — resizes the image so the entire length and width of the image fits in the Image display pane.
↺	**Rotate 90° Counterclockwise** — rotates the displayed image 90 degrees to the left based upon the current image position.
↻	**Rotate 90° Clockwise** — rotates the displayed image 90 degrees to the right based upon the current image position.
—	**Minus** — moves the film backward one image.
+	**Plus** — moves the film forward one image.

To execute the command corresponding to a specific tool:

- Click on the toolbar button.

NOTE: If a tool is grayed, it is not available at that moment.

The Annotation toolbox

The Annotation toolbox allows you to specify font attributes, color and line width, when applicable. If the Annotation toolbox is not displayed, it can be displayed by choosing **View>Annotation Toolbox.** Procedures on how to use these functions are described in Chapter 3, *Using the Software*. Most of these options can also be accessed from the Annotate menu.

NOTE: The Ellipse tool is not available in this release of software.

The following table describes the function of each button on the toolbox.

Button	Description
	Arrow ¾ allows you to draw a straight line with or without an arrow head(s).
	Hollow Rectangle — allows you to draw a rectangular border around a specific area on an image.
	Highlight — allows you to draw a rectangle highlighting a specific area with a transparent color. This option allows you to call attention to something specific on an image.
	Redact — allows you to draw a rectangle on a displayed image with a solid, opaque color. This allows you to mask over some part of the image that you do not want the recipient to see, but lets the recipient know that information has been masked. Using the white color provides you with "white-out" capability.
Button	**Description**

![Freehand Line icon]	**Freehand Line** — allows you to draw free-form lines.
![Polyline icon]	**Polyline** — allows you to draw a series of line segments by connecting points.
![Text icon]	**Text** — allows you to type a text message to be added to the image. Click on **Fonts** to allow you to select the font type, size and style for the text. This font selection will remain active until you change it or the software is exited.
![Image icon]	**Image** — displays the Open dialog box, which allows you to select a bitmap image to attach to the currently displayed image.
![Popup icon]	**Popup** — select this tool, then click with the left mouse button in the Image display pane to display the Popup dialog box which allows you to attach a note to an image. This note will appear as an icon on the image alerting the recipient that a note is attached.
![Select icon]	**Select** — allows you to select any previously created annotations so it can be moved, resized or deleted.

The Image Retrieval keypad

The Image Retrieval keypad is usually displayed at the bottom of the PC monitor. This keypad can be placed anywhere on the screen.

To move the Image Retrieval keypad:

- Place the mouse cursor on the title bar of the keypad, press and hold the left mouse button and drag the keypad to the desired location.

The following buttons on the Image Retrieval keypad are mapped to the keyboard's keypad:

- Numeric keys to the number keys
- Srch to the Enter key
- + button to the + key
- - button to the - key

NOTES:

- The **Num Lock**, *****, **/**, and **Delete** keys on the PC keyboard do not map to Clr, Set A, Set B and Refile on the keypad.

- To use the numeric keys on your PC, be sure that Num Lock is active on the keyboard.

You can activate the keypad either by clicking on it or selecting **View>Keypad** from the Menu bar. When the keypad is active, you can use the mouse to select from the keypad, or use the physical keypad on the keyboard.

NOTE: Assigning a shortcut key to the Keypad function can increase productivity.

Following is a description of the fields on the Image Retrieval keypad.

Image Retrieval text box — enter the desired image address in the text entry box.
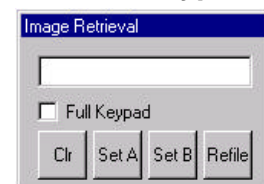
Full Keypad — this keypad can be displayed in full or partially. When this option is checked, the full keypad will be displayed.

Full Keypad   **Partial Keypad**

Image Retrieval text box

Clr (Clear)—the **Clr** button is used to clear information from the Image Retrieval keypad text box. When **Clr** is selected, it will also stop any film movement (i.e. searching, refiling, etc.)

Set A— when used with the number keys, allows you to:

- preset the starting image address for Channel A (e.g., film roll #2 continues from roll #1, and starts with image address 20.0) or,
- change the current Channel A image address (e.g., to correct for errors in filming).

Enter the desired preset address then click on the Set A button.

Set B — when used with the number keys, allows you to:

- preset the starting image address for Channel B (e.g., 3890 check film from a camera sorter) or,
- preset the last image address for Channel B, (e.g., with duo film, Channel A and Channel B can then be searched simultaneously to save time) or,
- change the current Channel B image address (e.g., to correct for errors in filming).

Enter the desired preset address then click on the Set B button.

Refile — when finished with the film currently in the scanner, select **Refile** to rewind the film.

Numeric buttons — used to enter an image address. The numeric buttons (in conjunction with the + and – buttons) can also be used to specify the number of images to go forward or backward. For example, enter 10, then select the + key; the film will be advanced 10 images.

Srch (Search) — after entering an image address, click **Srch** (or press **Enter**) to locate the image.

- (minus) — moves the film backward one image at a time.

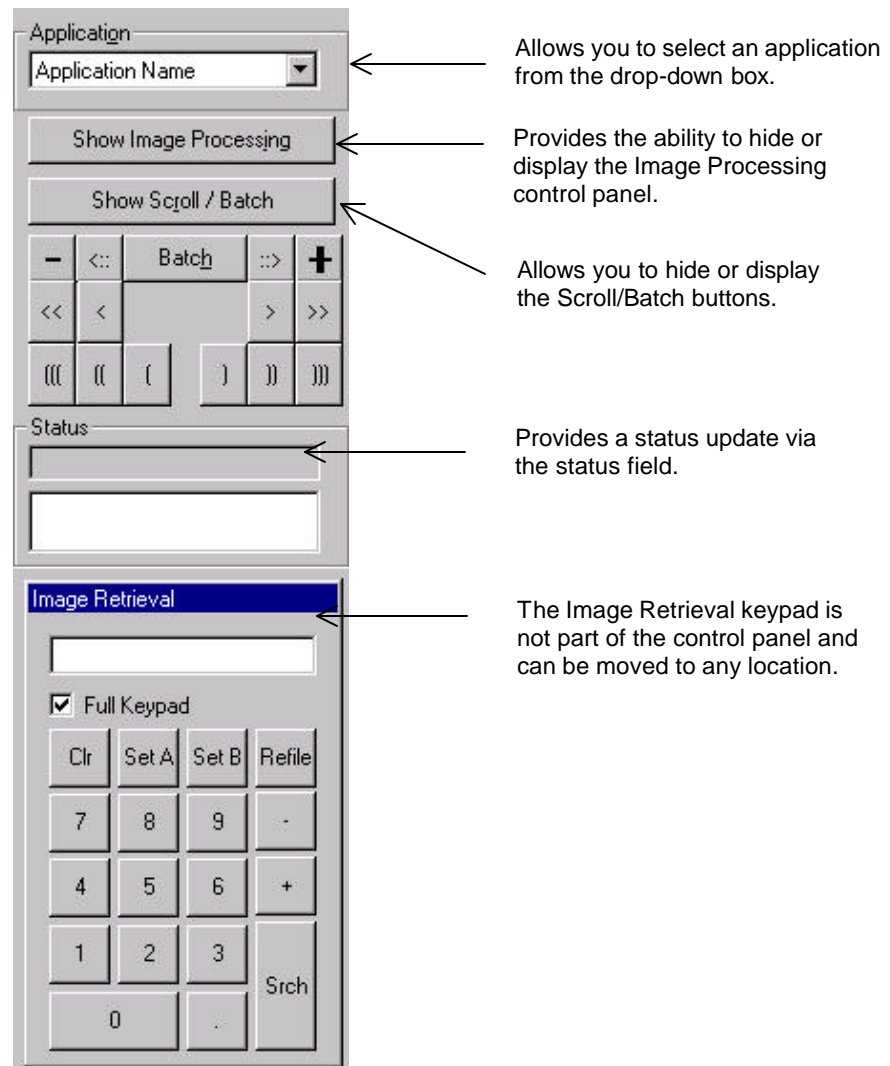**+** (plus) — moves the film forward one image at a time.

NOTE: When using the **–** or **+** keys, it is not necessary to select **Srch** or press **Enter**. Doing this could cause a ***Controller Timeout*** error message.

. (decimal) — used for multi-level film image addressing (e.g., 15.0 for 2-level or 22.5.0 for 3-level).

NOTE: Num Lock on the keypad of the PC keyboard must be On for the numeric buttons to function properly.

The Control Panel   All functionality of the Control Panel is described in this section. The Control Panel:

Allows you to select an application from the drop-down box.

Provides the ability to hide or display the Image Processing control panel.

Allows you to hide or display the Scroll/Batch buttons.

Provides a status update via the status field.

The Image Retrieval keypad is not part of the control panel and can be moved to any location.

The Image Retrieval keypad is separate from the Control Panel, can be displayed in full or partially, and can be moved anywhere on your screen. For more information, see the section entitled, "The Image Retrieval keypad" earlier in this chapter.

NOTES:

- The last image retrieved stays in memory until the Application Software is closed. If you close the displayed image, then use the Control Panel to make any changes, the image will be automatically recalled and displayed.

- The Control Panel is not effective when viewing an image opened from a file.

- The keypad can also be activated by selecting **View>Keypad** from the Menu bar.

Application — allows you to select the desired application from the drop-down list. When an application is selected, all of its defined parameters immediately become active.

NOTE: If there is a roll of film inserted in the scanner when the application is changed, the film will rewind automatically.

Show/Hide Image Processing — this option toggles between Show and Hide Image Processing. When the Show Image Processing button is displayed, click this button to display the Image Processing Control Panel. When the Hide Image Processing button is displayed, click the button to hide the Image Processing Control Panel. See the next section entitled, "The image processing Control Panel" for more information.

Show/Hide Scroll/Batch — this option toggles between displaying and hiding the navigation buttons.

NOTE: You must enable Plus Indexing in the current application when using the Browse functions to allow you to cross chapter boundaries. For more information see the section entitled, "Setting values on the General tab" in Chapter 4.

When the Navigation buttons are displayed, you can choose one of the following options:

- moves backward by one image.
+ moves forward by one image.
<:: displays the Browsing dialog box and initiates browsing backward one image at a time.
::> displays the Browsing dialog box and initiates browsing forward one image at a time.
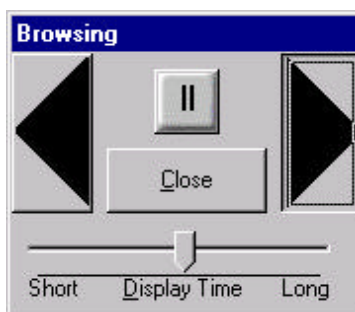
The Browsing dialog box allows you to pause browsing, specify display time for each image in milliseconds, and change to browsing in the other direction. While paused, image processing changes may be made using the Image Processing Control Panel.

- To end browsing, click **Close**.

- The ⏸ button suspends the browsing function. To resume browsing click on the 🟢 button. The right or left arrows can be used to go forward ▶ or backward ◀. It is not necessary to suspend browsing when changing direction.

- Use the Display Time slider bar to change the amount of time you want the image displayed before moving to the next image.

<< moves the film rapidly backward.

< moves the film slowly backward.

> moves the film slowly forward.

>> moves the film rapidly forward.

NOTE: Images will not be displayed while using these functions.

Film movement will not show in the Image display pane. To move the film, place the mouse cursor on the desired button and press and hold the left mouse button. Release the left mouse button to stop the scanner transport and scan a section of film.

Batch — displays the Batch Scan dialog box, which allows a selected set of images to be scanned and saved and/or printed. See the section entitled, "Batch scan" in Chapter 3 for more information.

Scrolling buttons — the scrolling buttons allow you to scroll the film at varying speeds forward or backward. The speed at which the film moves is different based on the resolution (Normal or Enhanced).

Resolution	Fast Speed	Medium Speed	Slow Speed
Normal	12.4 mm/second	6.2 mm/second	3.1 mm/second
Enhanced	6.2 mm/second	3.1 mm/second	1.55 mm/second

You can scroll in either (Scan Output) bi-tonal or grayscale (16-gray or 256-gray). Scrolling defaults to 256-gray levels (unless it is changed in Application Setup).
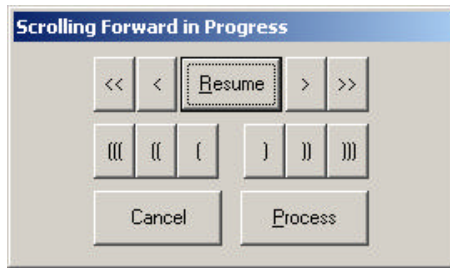
<< — moves the film rapidly backward, then resume scrolling.

< — moves the film slowly backward, then resume scrolling.

Pause — momentarily stops the film at the selected image until you select **Resume**. Film will be repositioned to scroll where you left off.

> — moves the film slowly forward.

>> — moves the film rapidly forward.

(((— scrolls the film backward at the fast speed

((— scrolls the film backward at the medium speed

(— scrolls the film backward at the slow speed

) ¾ scrolls the film forward at the slow speed

)) ¾ scrolls the film forward at the medium speed

))) ¾ scrolls the film forward at the fast speed

NOTES:

- During scrolling you can use the Zoom functionality to enlarge (by rubber-banding and right-mouse clicking the area you want to zoom in on) or reduce (right-mouse click) the image for easier viewing.

- The image address displayed on the status bar may not match the image displayed on the screen.

Stop — exits the Scrolling function.

Process — prepares the image for printing, faxing, emailing or saving.

Status — displays the image address of the current image and any status messages associated with the image. For example, messages such as, *Searching*, *Refiling*, *Scanning*, *Image not Found*, etc. will be displayed.
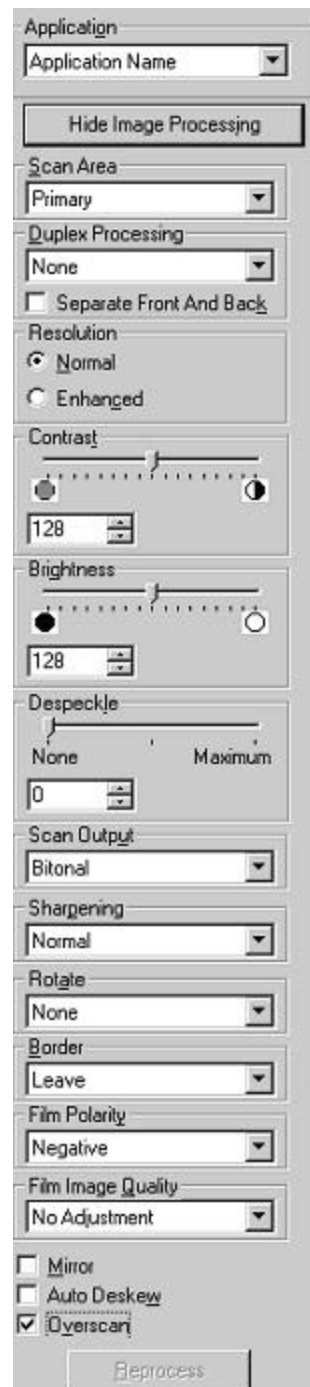
The image processing Control Panel

Image processing parameters are setup via the **Setup>Application** function at the time of installation or by the system administrator. You can temporarily override the original values for an application. The Application Software provides two levels of overriding image processing parameters.

- Use the Image Processing menu to temporarily override image processing parameters for the currently displayed image. For more information see the section entitled, "The Image Processing menu" in this chapter.

- Use the Image Processing Control Panel to temporarily override image processing parameters for the current retrieval application.

If the Control Panel is not visible, select **View>Control Panel** from the menu. The Control Panel will be displayed. Once the Control Panel is visible, you can hide or display the Image Processing portion of the Control Panel. You may choose to hide the entire Control Panel at any time to provide a larger Image display pane.

The Image Processing Control Panel allows you to change image processing values to obtain the best image possible for the current application. Changes will remain in effect until the application is changed, or the Application Software is exited.

Application
Application Name ▼

Hide Image Processing

Scan Area
Primary ▼

Duplex Processing
None ▼
☐ Separate Front And Back

Resolution
⦿ Normal
◯ Enhanced

Contrast
128

Brightness
128

Despeckle
None   Maximum
0

Scan Output
Bitonal ▼

Sharpening
Normal ▼

Rotate
None ▼

Border
Leave ▼

Film Polarity
Negative ▼

Film Image Quality
No Adjustment ▼

☐ Mirror
☐ Auto Deskew
☑ Overscan

Reprocess

Application— select the desired Application from the list box.

Show/Hide Image Processing — this option toggles between showing and hiding the Image Processing control panel.

Scan Area — determines the area of the film that the image processing settings are applied to.

- **Primary** — image processing settings are applied to the entire image area that is defined in the Application Setup. This is the only option available for non-duplex processing.

Front and Back are available when Duplex Processing is enabled.

- **Front** — image processing settings are applied to only the front side of the image.
- **Back** — image processing settings are applied to only the back side of the image.

Duplex Processing — provides the option of arranging the front and back sides of an image from duplex film vertically rather than horizontally.

- **None** — disables Duplex Processing.
- **Manual** — to initially define the front and back areas. When **Manual** is selected, the image area defined in Application Setup will be displayed in the Duplex Processing dialog box.
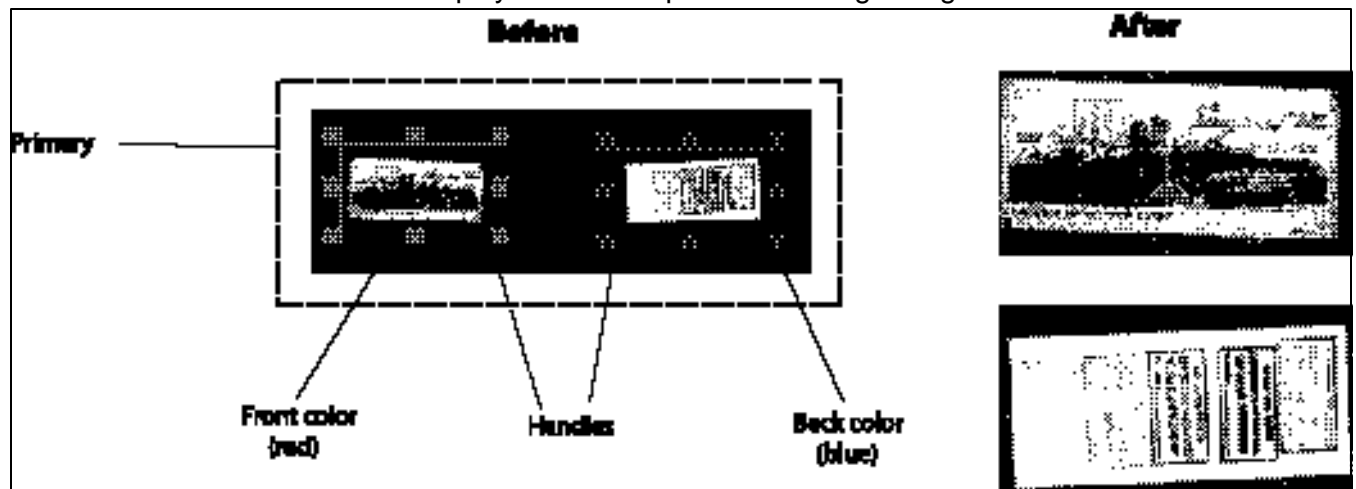
- **Automatic** — uses the last specified manual setting to automatically display all images in duplex processing view. This is useful when all images on the film are the same size.

For procedures on using Duplex Processing, see the section entitled, "Setting Manual and Automatic duplex processing" in Chapter 3.

Separate Front and Back ¾ check this option when you want to create two separate image files or prints; one file for the front of the image and one file for the back of the image (see the illustration below). This is useful for printing fronts and backs on separate sheets of paper.

With Separate Front and Back enabled ¾ two separate files

100F.tif　　　　　　**100B.tif**

With Separate Front and Back disabled ¾ one file
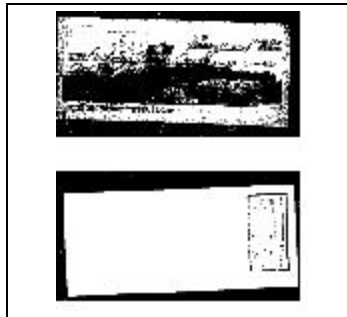
100.tif

Resolution — choose from either **Normal** or **Enhanced** resolution. Normal will scan the image at 3650 pixels; Enhanced will scan the image at 7300 pixels.

- If bi-tonal output is used, select **Enhanced** resolution if the reduction ratio on film is equal to or greater than 40X, to obtain the best image quality possible. Select **Normal** resolution if the reduction ratio on film is less than 40X.

- If 16- or 256-gray scale output is used, it is recommended that you use Normal resolution. If you are not satisfied with the result, select **Enhanced**.

Contrast — adjusts the gray levels in an image. Contrast can only be used with 16- or 256-level gray scale images. A high contrast value will display the image as mostly black and white, whereas a low contrast value will display the image as mostly midtones (more subtle changes in gray levels are detected).

Brightness — adjusting the Brightness will make the image appear lighter or darker. The higher the Brightness setting the lighter the image will appear.

Despeckle — reduces the amount of stray spots (specks, etc.) on an image. *This option is for bi-tonal images only.*

NOTE: The Contrast, Brightness and Despeckle options can be roughly adjusted by using the slider bar. You can more precisely adjust these options by entering a value in the entry field or use the up and down arrows to obtain the desired value $\boxed{128 \quad \updownarrow}$.

Scan Output — select the type of output required. (**Bitonal** produces the smallest file size; **256-gray** produces the largest file size).

- **Bi-tonal**: each image will be processed as a single-page TIFF file using CCITT Group 3 or 4 compression (for black and white images).
- **16 gray**: each image will be processed as a single-page TIFF file using JBIG compression (for 16-level gray scale images).
- **256 gray**: each image will be processed as a single-page TIFF file using JPEG compression (for 256-level gray scale images) or as a JPEG file with JPEG compression. For 256 gray, it is recommended you use JPEG/JPEG compression.

Sharpening — used to accentuate the fine details of an image.

- **Normal**: used to enhance the detail of an image, which contains small print.
- **Low**: used to enhance images containing dot matrix text and/or images printed with shaded or colored backgrounds using halftone screens. This option reduces background noise.
- **Photo**: if the image is comprised mainly of photographs.
- **Photo & Text**: if the image is a mix of text, line art, and photographs (i.e., check camera-sorter films).
- **Text**: if the image is mostly text.

Rotate — choose one of the following options to specify images will be rotated when displayed:

- **None**: to process the image in the original orientation.
- **90° Clockwise**: to process the image rotated 90° to the right.
- **180° Clockwise**: to process the image rotated 180° to the right.
- **270° Clockwise**: to process the image rotated 270° to the right.

Border — choose one of the following options:

- **Leave**: keeps the border around the image.
- **Auto crop**: removes the border from around the image.
- **Border remove**: removes the border from around the image but does not reduce the scanned image file size.

  Border remove works best with images that have proper exposure and a reasonable space between images. Do not use Border remove with light images.

  NOTE: When using Border remove or Auto crop, the entire image (all borders) must be visible in the image area so the image can be properly processed.

Film Polarity — select the following option:

- **Negative**: if the film image is a black background and a clear foreground/character(s).
- **Positive**: if the film image is a clear background and a black foreground/character(s).

Film Image Quality ¾ used with bi-tonal or gray scale output to improve readability of images from a film that is too light or too dark. It can also improve low contrast images. This feature widens the range between the lightest and darkest pixel in the image. Select one of the following options if desired:

- **No Adjustment**: no enhancement.
- **Light Film**: if film is light, it makes the dark areas darker.
- **Normal Film**: if film has the correct exposure but low contrast, this option adds contrast to the image.
- **Dark Film**: if the film is dark, it lightens the background and other areas that should be lighter.

Mirror — this option is used when a roll of film has been wound incorrectly on the reel and the image appears as if it were being viewed in a mirror and is "reverse-reading". Check this option if you want the image to appear right-reading.

Auto Deskew — automatically straightens the displayed image. When Auto Deskew is enabled, Auto crop will also be enabled.

Overscan ¾ to enable or disable scanning and display of a specified number of images before and after the image you requested. The Before and After values are defined in Application setup. Overscan is useful for film with poor image alignment within the film frame, such as 3890 single-level check film. When **Overscan** is checked, the images will initially be displayed in the Select Overscan dialog box.

NOTES:

- When using the scrolling function, it is not necessary to have Overscan specified in Application Setup or enabled on the Image Processing Control Panel.

- The image address displayed on the status bar may not match the image displayed on the screen.

- If Duplex Processing is enabled, the Duplex Processing dialog box will be displayed instead. For procedures on using duplex processing, see the section entitled "Setting manual and automatic duplex processing" in Chapter 3.

- The dialog box displayed below may appear differently based upon the options selected on the Page Layout dialog box (Output tab).

The Select Overscan dialog box contains several tool buttons.

♦ **Selection** � — allows you to move the Image Area green rectangle by placing the cursor inside the rectangle, pressing the left mouse button, and dragging the rectangle to the desired location. Also allows you to resize the rectangle using the handles, or zoom from a point of origin outside the rectangle by drag-selecting and clicking with the right mouse button.

♦ **Zoom** 🔍 — allows you to zoom from a point of origin inside or outside the Image Area green rectangle by drag-selecting and clicking with the right mouse button.

♦ **Image Area** 🔲 — allows you to remove and redraw the Image Area green rectangle by clicking outside the rectangle with the left mouse button to remove, then drag-selecting the desired area to redraw. Also allows you to move or resize the rectangle, the same way as the Selection tool.

♦ **Previous Block** 🔼 — allows you to decrement and scan by a block of images rather than one image at a time. For example, if images 48-52 are displayed, **Previous Block** will result in images 43-47 being displayed, rather than images 47-51.

♦ **Next Block** 🔽 — allows you to increment and scan by a block of images rather than one image at a time. For example, if images 48-52 are displayed, **Next Block** will result in images 53-57 being displayed, rather than images 49-53.

♦ **Overlap By One** — allows you to retain one image from the current block when navigating with **Previous Block** or **Next Block**. For example, if images 48-52 are displayed, and **Overlap By One** is enabled, **Next Block** will result in images 52-56 being displayed.

Use the appropriate tools to select the desired image area then click **OK**. The selected area will be displayed in the Image display pane in the main application window.

NOTE: Enable **Overscan** prior to starting a search, otherwise the Reprocess button will be unavailable.

Reprocess — select **Reprocess** to return to the Duplex Processing dialog box or Select Overscan dialog box if those options are enabled.

The Thumbnail pane

The Thumbnail pane can be displayed by selecting the **View> Thumbnails** option. You can display thumbnails as small icons, large icons, a list, or a list with details. Select **None** to hide the Thumbnail pane. The Application Software is only capable of opening image files.

NOTE: If you want Thumbnails displayed, you must enable this option each time you open the application.

You can select one or more of the thumbnails by clicking the right mouse button which will display a popup menu that allows you to open, cut, copy, paste, delete, rename, fax, print, e-mail images or create or email multi-page TIFF files.

If you choose to create a multi-page TIFF file, the Save As dialog box will be displayed. For more information, see Chapter 3, *Using the Software*.

If you want to email single-page TIFF files as a multi-page TIFF file, select **email Multi-Page**. The New Message screen is displayed with the multi-page TIFF file attached.

NOTE: As in Windows Explorer, you can select more than one thumbnail, by using the Shift and Control keys.

When the Detail thumbnail option is selected, columns including the Name, Size, Type, Modified, and Nr are displayed.

When the Thumbnails option is selected, it will take time to create the thumbnail icons in the folder selected. While this is occurring, the software is not available for other functions.

The Image display pane

The Image display pane is the area within the window where your images are displayed.

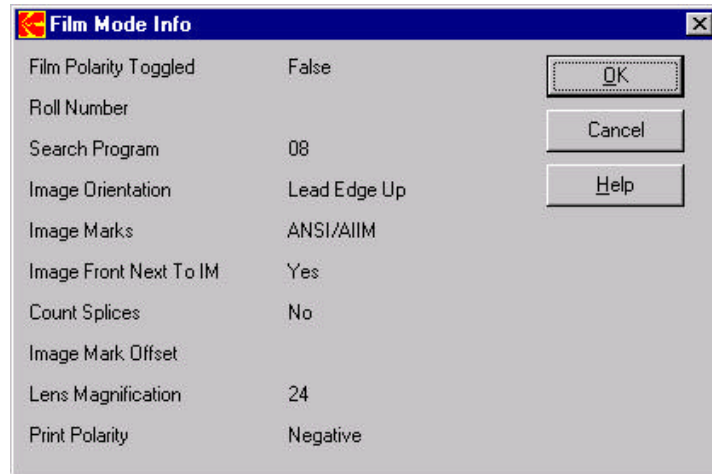To change the size of the Image display pane:

1. Place the mouse cursor on the vertical line separating the display pane from the adjacent pane.

When the cursor changes to a horizontal size bar, press and hold the left mouse button and drag the cursor to the right or left until the desired size of the pane is achieved.

The Status bar   The Status bar indicates the application name, the image address of the image that is displayed and whether or not it is in Film or Programmed mode. Informational messages may also be displayed in the Status bar.

NOTE: If IMC is enabled in Application setup, and the film currently loaded in the scanner has lead end code, *Film* will be displayed in the Status bar at the bottom of the main window. The information contained in the lead end code can be accessed by clicking on *Film* in the Status bar. The Film Mode Info dialog box will be displayed with the following information:

Film Mode Info		
Film Polarity Toggled	False	OK
Roll Number		Cancel
Search Program	08	Help
Image Orientation	Lead Edge Up	
Image Marks	ANSI/AIIM	
Image Front Next To IM	Yes	
Count Splices	No	
Image Mark Offset		
Lens Magnification	24	
Print Polarity	Negative	

*   Click **OK** to close the dialog box.

3   Using the Software

After you have reviewed Chapter 2, *Getting Started*, you will be ready to start using the Application Software.

Images can be retrieved from film by using the scanner. This chapter provides procedures for:

- Calibrating the scanner
- Opening applications
- Retrieving images from film
- Opening and saving images
- Using the Image Processing options
- Using the Annotation options
- Resizing the Application window

Calibrating the scanner

Calibration optimizes the optical system of the scanner in order to achieve the best overall quality of images. Calibrate the scanner at least once a day or whenever it is powered on. To calibrate the scanner:

1. If the scanner is not on, turn it on. When one of the LEDs is illuminated, the scanner is ready.

2. Select **Setup>Calibration**. The Calibration dialog box will be displayed:
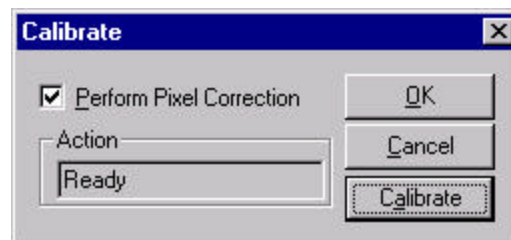
3. Click **Calibrate**. As the scanner is calibrated, messages will be displayed in the Action box. Upon successful calibration, *Calibration Succeeded* will be displayed.

   - If calibration was unsuccessful, the message *Calibration Failed* will be displayed. Be sure that all cables are connected securely and calibrate again. If calibration fails again, contact your system administrator.

4. Click **OK** when finished.

NOTE: The default is to have Perform Pixel Correction enabled. If Perform Pixel Correction is turned off, image quality may not be as expected.
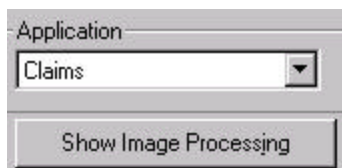
Opening an application

The Application Software allows you to select an existing application or create a new application. Chapter 4, *Application Setup*, provides procedures on setting up new applications.

To use an existing application:

- Select the desired application from the Application drop-down list box on the Control Panel:

Once an application is selected, you can make use of all its parameters to retrieve images from film, use the image processing and annotation options and save, print or e-mail the images as desired.

Retrieving images from film

The scanner can handle a variety of film formats and methods of indexing. It has search programs to handle duo, duplex, duo/duplex or simplex film formats with one-level, two-level, or three-level image marks. It can also be used to do odometer searches of film that contains no, or poor quality, image marks. For more information see the section entitled, "Using the odometer mode" later in this chapter.

When retrieval is under CAR control, you must have CAR Interface Software installed and the CAR parameters defined in the CAR setup.

IMPORTANT: *Before retrieving images from microfilm, be sure the kinks are removed from the film. Failure to remove the kinks may cause threading problems.*

To retrieve images from film:

- Insert the microfilm, which contains the desired image in the film slot of the scanner. You can then navigate through the film in several ways. For more information on the following features, see Chapter 2.

  ➢ By using the Navigate menu.

  ➢ By using the navigation buttons on the Control Panel.

  NOTE: You must enable Plus Indexing (typically, Plus Indexing is disabled) in the current application when using Batch Scan or plussing across chapters to allow you to cross chapter boundaries. For more information see the section entitled, "Setting values on the General tab" in Chapter 4.

  ➢ By using the Image Retrieval keypad.

Searching for next occurrence of an image address

The Search Again function allows you search for the next occurrence of an image address on a roll of film.

To use the Search Again function:

- Select **Navigate>Search Again**. The scanner will begin searching the roll for another occurrence of the current image address.

  NOTE: Film must have Random Batch Code to find another occurrence of the image address. If found, it will stop at the image, scan and display it. If not found, it will report *Image not found.*

Using the odometer mode

The Odometer mode allows you to search film by odometer units rather than image marks. The value of an odometer unit is determined by the odometer scale defined during Application setup.

To retrieve images using the odometer mode:

1. Select the desired odometer mode application.

2. Advance to a position on the film that you want to establish as your reference point.

3. Enter the odometer unit preset value, if any, then select Set A, on the Image Retrieval keypad.

4. To initiate a retrieval, enter the desired odometer unit value, then select **Srch**, on the Image Retrieval keypad.

   NOTE: If the odometer scale is equal to or greater than 1 inch, a format of X.XX must be used to enter the odometer unit value. If the odometer scale is less than 1 inch, a format of X must be used to enter the odometer unit value.

Examples:

- If the odometer scale is 1 inch, then 1 odometer unit equals 1 inch. To advance 180 inches into the film, enter 180.00 in the Image Retrieval keypad.
  (180 inches ÷ 1 inch per odometer unit = 180 odometer units)

- If the odometer scale is 5 inches, then 1 odometer unit equals 5inch. To advance 180 inches into the film, enter 36.00 in the Image Retrieval keypad.
  (180 inches ÷ 5 inches per odometer unit = 36 odometer units)

- If the odometer scale is 12 inches, then 1 odometer unit equals 12 inch. To advance 180 inches into the film, enter 15.00 in the Image Retrieval keypad.
  (180 inches ÷ 12 inches per odometer unit = 15 odometer units)

Searching for a preset image address

The scanner is set to count the first image mark on a roll of film as 1 or 1.0 or 1.0.0 (depending on the number of levels in the image address). If the first image on the film has an image address or sequence number other than 1 or 1.0 or 1.0.0, you can use the Set A or Set B function on the keypad to specify the starting sequence number. To do this:

1. Insert the roll of film you want to search.

2. Enter the starting sequence number (or image address) that is listed on the film storage box. For example: the first image on the roll is sequence number 3.0.0.

    NOTE: If the sequence number (or image address) is not documented, it may be imprinted next to the image on film, as shown below. Select the **+** key on the keypad. The film will advance to the first image. If the sequence number is available, use it as the beginning point to search for the actual image you want to retrieve.
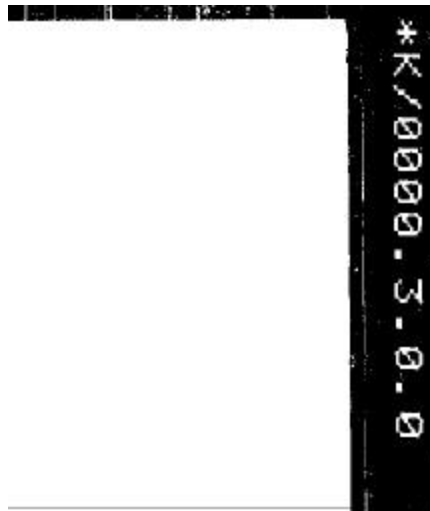

Image address or Sequence No.

3. Select **Set A** or **Set B** (depending on the film format being used). For more information, see "The Image Retrieval keypad" in Chapter 2.

4. Enter the image address of the image you want to retrieve and select **Srch**.

Batch scan

To automatically save and/or print a group of images from the same roll of film, use the Batch Scan option. Before accessing Batch Scan, be sure film is inserted into the scanner and that you have searched to the first image address in the batch. Adjust the images as desired, then select **Navigate>Batch Scan** or the **Batch** button on the Control Panel. The Batch Scan dialog box will be displayed.

NOTE: You must enable Plus Indexing (typically Plus Indexing is disabled) in the current application when using Batch Scan to allow you to cross chapter boundaries. For more information see the section entitled, "Setting values on the General tab" in Chapter 4.
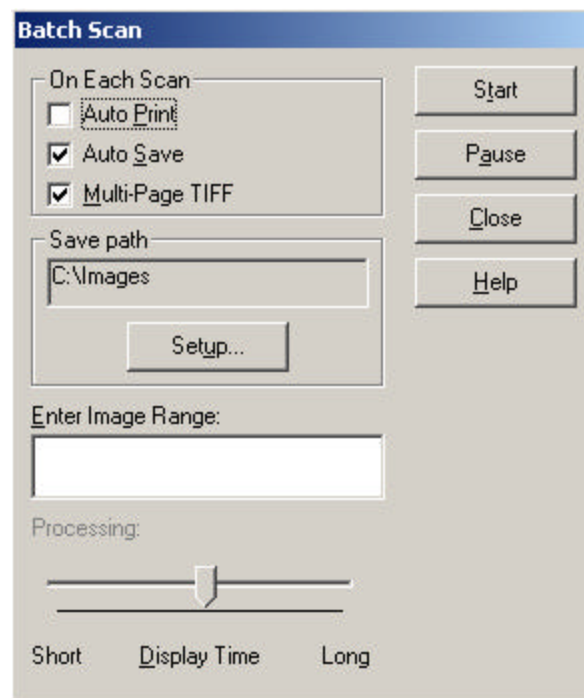
1. Select what you want to do with the images — **Auto Print**, **Auto Save,** or **Multi-Page TIFF**.

  • **Auto Print** automatically prints all of the images.

  • **Auto Save** automatically saves all of the images.

  • **Multi-Page TIFF** automatically combines the images entered in the Image Range field and creates single-page TIFF files. These single-page TIFF files are then combined into a Multi-Page TIFF file. Once combined, the system deletes the single-page TIFF files. Multi-Page TIFF only works with 16-grayscale and bi-tonal images.

    NOTE: The name of each single-page TIFF file will be the same name of the first image scanned in each range.

NOTE: If you want to change the path of the folder where images will be saved, and/or the conventions to be used for naming files, select **Setup** from the Batch Scan dialog box to display the Setup Naming dialog box.
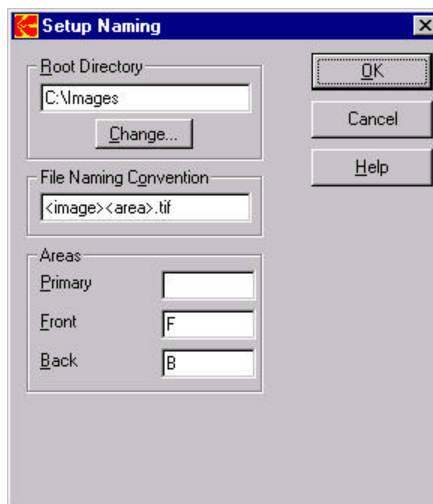
- Enter the path in the root directory text box, or click the **Change…** button to select the desired directory.

- Change file naming conventions if desired.

- Click **OK** to save the change.

More information regarding root directory and file naming conventions is found in the section entitled "Changing Naming Convention Properties" in Chapter 4.

IMPORTANT: *Improper setup of root directory and file naming conventions can cause image files to be overwritten without notification.*

2. Enter the addresses (or sequence numbers) of the images to be processed in the Enter Image Range field. Individual addresses can be entered, and/or a range(s) of addresses. Use a dash to separate the start and end values of a range, and a semicolon to separate individual addresses and ranges.

Following are some examples:

- To enter multiple ranges for 1 level film: 1-5;7-9

- To enter multiple ranges for 2 level film, including individual addresses: 1.0-1.5;3.0;4.10-4.30

NOTE: To accommodate European keyboards, a comma can be used in place of a period in an address, e.g., 1,0-1,5;3,0;4,10-4,30.

In addition, the character "N" can be used as a wildcard to specify various ranges. For example, in a 3-level application:

- When an image has already been retrieved and is displayed, to enter a range for next address to first address in next chapter: *-3.1.n*, where *3* is the current book and *1* is the current chapter.

- When an image has already been retrieved and is displayed, to enter a range for next address to first address in next book: *-3.n.n*, where *3* is the current book.

- When a roll of film has been threaded but no images have been retrieved, to enter a range for all images on a roll: *-n.*

- A range of 255.3.1-255.4.n would result in the saving and/or printing of all images in Chapter 3, Book 255 through the last image in Chapter 4, Book 255.

3. If desired, use the Display Time slider bar to change the amount of time you want the image displayed before moving to the next image.

4. Select **Start** to begin scanning. If you want to temporarily suspend scanning (i.e., to change an image processing value from the Control Panel, such as; Brightness, Contrast, Despeckle, etc.), click **Pause**. You can then click **Start** to resume scanning, or **Close** to stop scanning and close the Batch Scan dialog box.

   NOTE: If an unplanned interruption occurs while batch scanning is being performed, search to the image you want to start at and reinitiate batch scanning from that point.

5. When batch scanning is complete, the message ***Batch Process finished*** is displayed. Click **OK** on the message box.

6. If you want to continue batch scanning, repeat the steps above, otherwise you can click on **Close** to close the Batch Scan dialog box.

Opening images

You may want to open an image that has been previously saved. To do this:

1. Select **File>Open Image…**. The Open Image dialog box will be displayed:
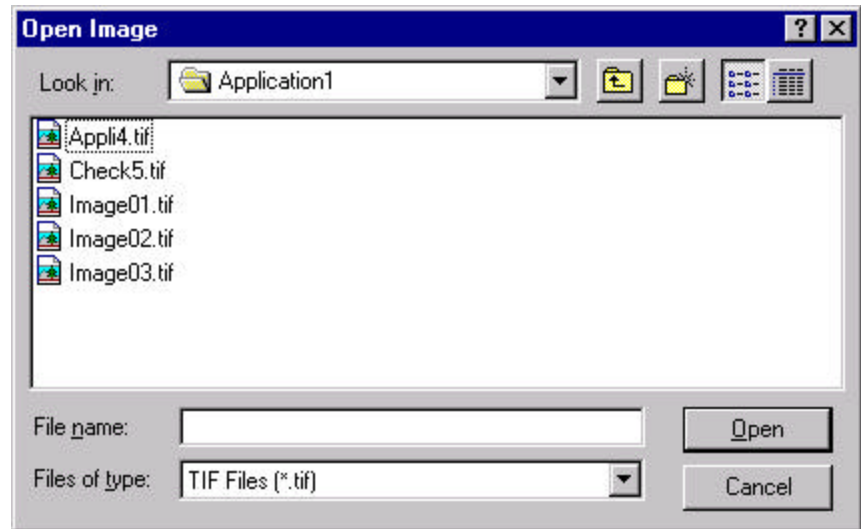
2. Select the desired directory using the Look In drop-down box and tool buttons.

3. Select the file type from the **Files of type** drop-down box.

4. Select the image file you want from the display box, or enter the file name of the desired image.

   NOTE: Multi-page TIFF files cannot be opened using the Application Software.

5. Click **Open**. The file you selected will be displayed in the Image display pane.

Saving an image

You can save a previously saved image to another file or save a new image using a non-default film name and/or path by using the Save As option. To do this:

1. Select **File>Save As…**. The Save As dialog box will be displayed:
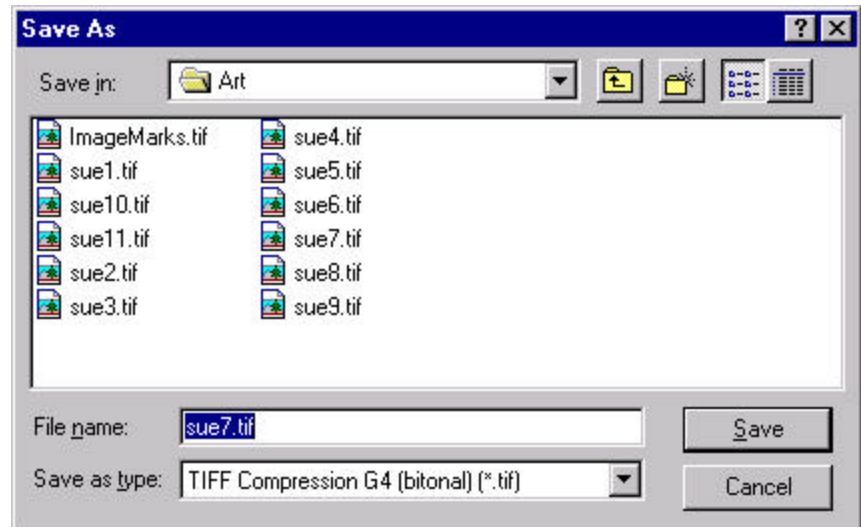
2. Enter a new file name.

3. Select the directory where you want the file to reside.

4. Select the file type and compression from the **Save as type** drop-down list.

    *   If the image was scanned as bi-tonal, the default is TIFF file type and Compression G3 (bi-tonal) (*.tif).

    *   If the image was scanned as 16 Gray, the default is TIFF file type and Compression JBIG (16 Gray) (*.tif).

    *   If the image was scanned as 256 Gray, the default is TIFF file type and Compression JPEG (256 Gray) (*.jpg).

5. Click **Save**.

Printing an image

The Application Software allows you to print images individually or group them in folders and print them. A print utility program must be installed for the Print options to work.

1. Select **File>Print**. The Print Options dialog box will be displayed.
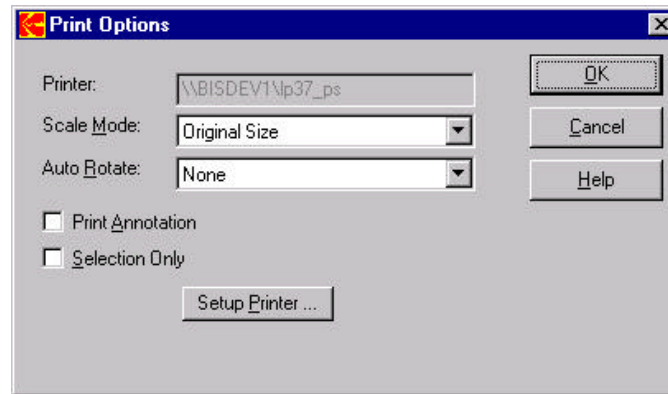
2. Select the desired printer. You can change the destination printer and other print properties by selecting **Setup Printer**…

3. Change the Scale Mode, if desired. Options are: **Original Size** which will print the image at the original scanned size, or **Fit to Page** which will size the image so it fits on the selected paper size.

4. Change the Auto Rotate option, if desired. Options are:

   - **None** — no rotation will occur.

   - **90° clockwise** — prints the image rotated 90° to the right based upon the current image position.

   - **90° counterclockwise** — prints the image rotated 90° to the left based upon the current image position.

5. If you want any annotation that you created to be printed on the image, click the **Print Annotation** box.

6. If you only want a portion of the image to be printed, click the **Selection Only** box. The portion to be printed must be rubber-band-selected on the display before accessing the Print Options dialog box.

7. Click **OK** when all the desired options have been specified.

   NOTE: Popup notes can be viewed but not printed.

To print a folder of images:

1. Click on the folder to print in the Thumbnail pane with the right mouse button.

2. Select **Print** from the Popup menu. The images will be printed using the current print options.

For detailed procedures on how to use the printer software package, see the instructions provided with your printer software.

Faxing an image

The Application Software allows you to fax images individually or group them in folders and fax them. ***The Fax utility must be a printer driver type.***

1. Select **File>Fax**. The Fax Options dialog box will be displayed.
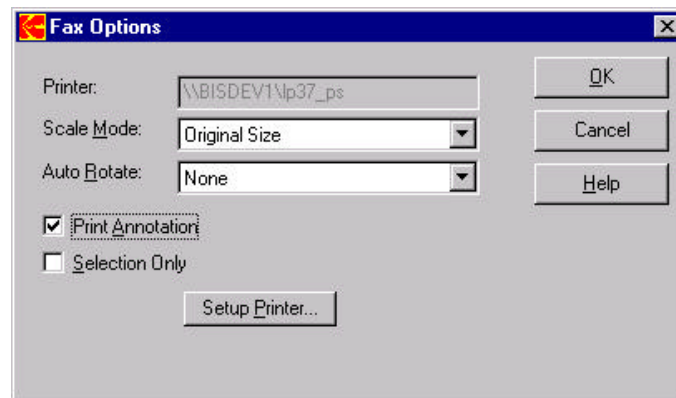
2. Select the desired fax machine. You can change the destination fax machine and other fax properties by selecting **Setup Fax**…

3. Change the Scale Mode, if desired. Options are: **Original Size** which will print the image at the original scanned size, or **Fit to Page** which will size the image so it fits on the selected paper size.

4. Change the Auto Rotate option, if desired. Options are:

   - **None** — no rotation will occur.

   - **90° clockwise** — faxes the image rotated 90° to the right based upon the current image position.

   - **90° counterclockwise** — faxes the image rotated 90° to the left based upon the current image position.

   NOTE: Popup notes can be viewed but not printed.

5. If you want any annotation that you created to be printed on the image, click the **Print Annotation** box.

6. If you only want a portion of the image to be faxed, click the **Selection Only** box. The portion to be faxed must be rubber-band-selected on the display before accessing the Fax Options dialog box.

7. Click **OK** when all the desired options have been specified.

To fax a folder of images:

1. Select on the folder to fax in the Thumbnail pane with the right mouse button.

2. Select **Fax** from the Popup menu. The images will be faxed using the current fax options.

For detailed procedures on how to use the fax software package, see the instructions provided with your fax software.

E-mailing images

The Application Software allows you to e-mail images individually or group them in folders, then e-mail them.

NOTE: A MAPI utility will provide immediate attachment of the file. A non-MAPI utility will require using the utility's ability to attach files previously created.

To e-mail an image:

1. Select **File>Send as eMail.** The dialog box associated with the e-mail software you are using will be displayed.

2. Select the desired options.

3. Click **OK**.

To e-mail a folder of images:

1. Click on the folder to e-mail in the Thumbnail pane with the right mouse button.

2. Select either **E-mail** or **E-mail Multi-Page** from the Popup menu. The images will be e-mailed using the current e-mail options.

For detailed procedures on how to use the e-mail software package, see the instructions provided with your e-mail software.

Cropping images

Use the Crop option to save or print only the significant part of an image. The area inside the yellow rectangle will be retained and the area outside the rectangle will be removed. ***Make any desired image processing changes before cropping.*** To crop an image:

1. Place the mouse cursor at a corner of the area you want to crop.

2. Press and hold the left mouse button and drag the mouse diagonally over the area you want to keep, then go to select **Edit>Crop**.

   The portion of the image you drew the rectangle around will remain displayed and fill the window.

3. Print, fax, e-mail or save the portion of the image as desired.

Setting Manual and Automatic duplex processing

Duplex processing is for applications that use checks or small items.

Duplex Processing allows you to arrange the front and back sides of an image from duplex film vertically rather than horizontally. Separate image processing parameter values can be specified for front and back images. The front and back images can be saved in separate files, or together in one file.

1. From the Image Processing Control Panel, select **Manual** from the Duplex Processing drop-down box.

   NOTE: If **Primary** is selected in the Scan Area, image processing selections will be applied to the front **and** back of an image.

Select **Manual**
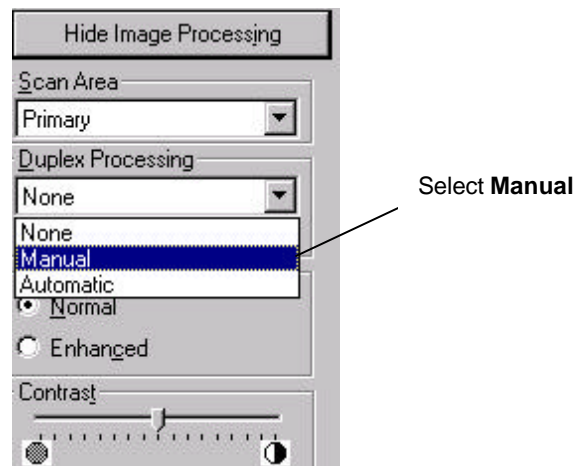
2. Retrieve an image that you want to duplex process. The Duplex
    Processing dialog box will be displayed showing the image area
    defined in Application setup.
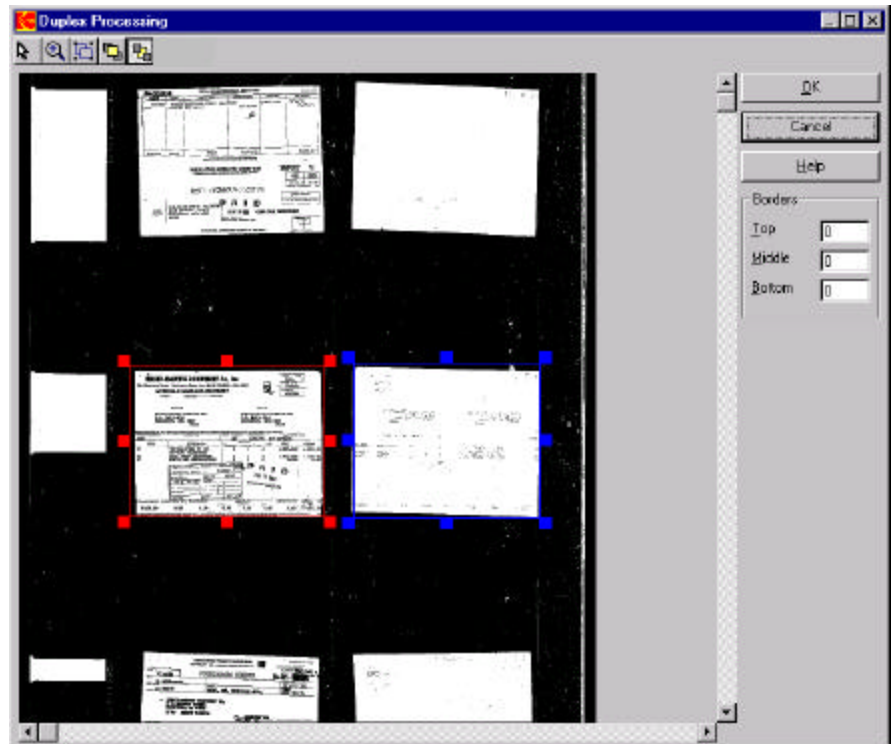
⬉ **Selection tool**	Zooms in on the image area.
🔍 **Zoom Area tool**	Zooms in on the image area.
⬚ **Image Area tool**	Activates the green rectangle. This tool allows you to draw a rectangle around both images and define both images as once.
⬚ **Front Selection tool**	Activates the red rectangle. This tool allows you to draw a rectangle around one image and defines it as the front image.
⬚ **Back Selection tool**	Activates the blue rectangle. This tool allows you to draw a rectangle around one image and defines it as the back image.

3. Either a red rectangle or blue rectangle will be automatically displayed, or one green rectangle, depending on previous actions.

- The red rectangle is used to define the front, and the blue rectangle is used to define the back. You can either use the handles to resize the current rectangles or use the Front and Back selection tools to draw new rectangles. Click with the left mouse button to delete the current rectangle. Press and hold the left mouse button and drag, to redraw a rectangle of the desired size in the desired locations.

- The green rectangle provides the capability to define both front and back with one rectangle.

  NOTE: When the left mouse button is released, duplex processing will be automatically initiated, the Duplex Processing dialog box will close and the selected area will be displayed in the Image pane. You must specify border options, if desired, prior to using the Image Area tool.

When the front and back areas are defined and any border options are designated, click **OK**.

4. If you want to define a clear border(s) at the top, middle and bottom of the image, you can make an entry in the Borders fields. Valid values are 0 to 1000. A value in the Top field designates a blank area at the top of the front image. A value in the Middle field designates a blank area between images and a value in the Bottom field designates a blank area below the back image.

NOTE: The Top, Middle and Bottom options are only available when you select **Scanned Image Size** on the Page Layout dialog box (accessed from the Output tab).

You can use the Top, Middle and Bottom border areas for annotation purposes. See the example below.

NOTE: No attempt was made to optimize the image quality of these images.

Before
(in Duplex Processing dialog box)

After
(In Image area)

The space between the front and back of the check was created by entering a value in the Middle field using the Border option.

Dear Mr. Smith: Here is the check you requested.
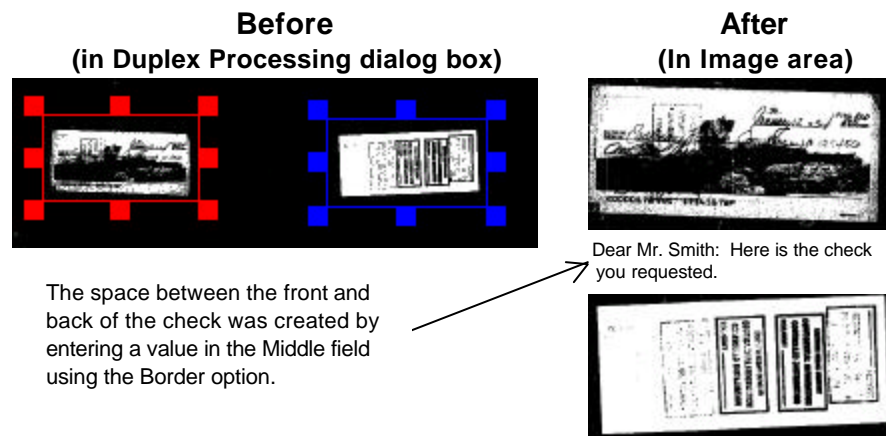
5. If you did not get the image area you want, click on the **Reprocess** button on the Control Panel to redisplay the Duplex Processing dialog box and repeat the above steps.

6. When the desired results are achieved, select **Automatic** to apply the duplex processing values to subsequent scans. You can select Front (or Back) in the Image Processing Control Panel scan area and adjust the brightness (and other image processing values) to apply separate values to front and back.

NOTE: If **Overscan** is enabled, the Duplex Processing dialog box will contain two additional tools (Previous Block and Next Block) and a field named Overlap By One.

♦ **Previous Block** — allows you to decrement and scan by a block of images rather than one image at a time. For example, if images 48-52 are displayed, **Previous Block** will result in images 43-47 being displayed, rather than images 47-51.

♦ **Next Block** — allows you to increment and scan by a block of images rather than one image at a time. For example, if images 48-52 are displayed, **Next Block** will result in images 53-57 being displayed, rather than images 49-53.

♦ **Overlap By One** — allows you to retain one image from the current block when navigating with **Previous Block** or **Next Block**. For example, if images 48-52 are displayed, and **Overlap By One** is enabled, **Next Block** will result in images 52-56 being displayed.

Use the appropriate tools to select the desired image area then click **OK**. The selected area will be displayed in the Image pane in the main application window.

Rotating an image using duplex processing

If you want to rotate an image 90° when you are using duplex processing, you can use either the **Rotation** option on the Control Panel, or select the **Rotate** toolbar button. Depending on which option/tool you use, the results will be displayed differently as shown below:
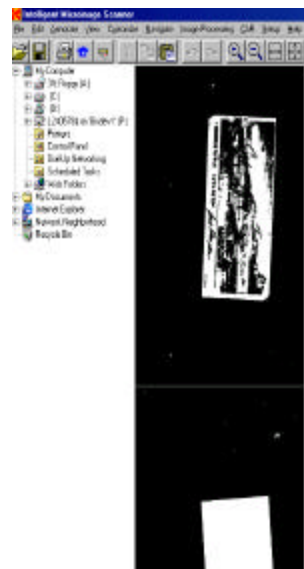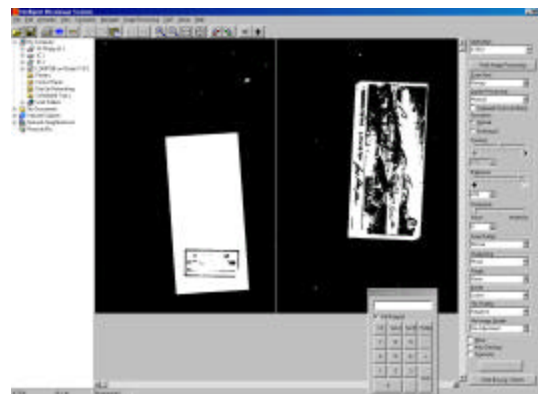
Before Rotation:
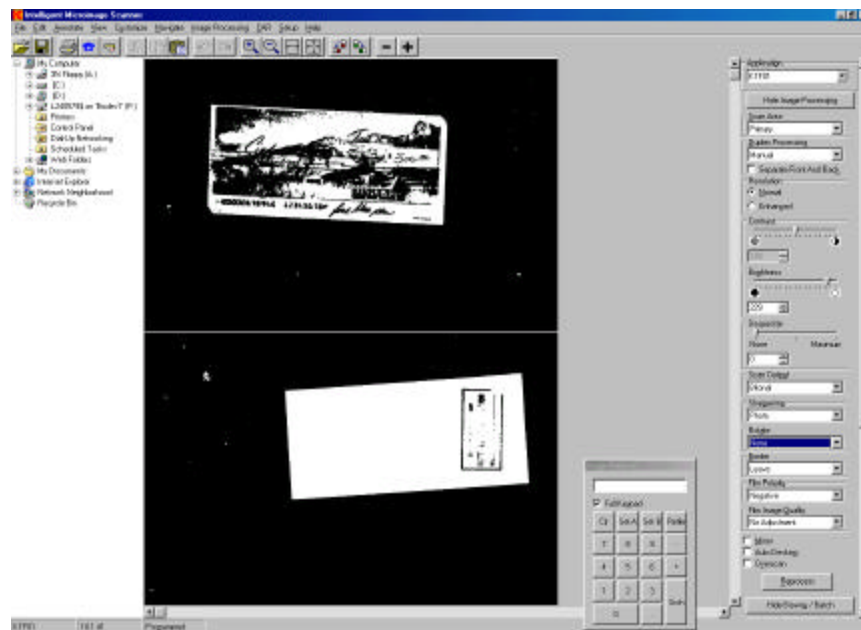
After Rotation:

If you choose the Rotation option on the Control Panel:

If you choose the Rotate toolbar button:

Annotating an image

The Annotate option allows you to highlight a particular area of an image, blank out information on an image or add a note to an image before printing, faxing or saving. You can use this feature to mask confidential information or add a customer message on a requested image.

NOTES:

- The Ellipse option is not available in this release of software.

- Before using the Annotation options, set the crop and image processing parameters to be sure the image is the way you want it.

- To be sure annotation is printed, the **Print Annotation** option must be enabled in the Print Setup or Fax Setup dialog box.

The Annotate options, such as Highlight, Hollow Rectangle, Freehand line, Polyline, and Arrow allow you several different drawing options. The Annotation Toolbox allows you to specify line width, color and arrow head direction and type.

IMPORTANT: *For a more detailed description of each option, see "The Annotate menu" and "The Annotation Toolbox" in Chapter 2.*

Using Redact, Highlight, Hollow Rectangle, or Freehand Line options

To use these options, follow the steps below:

1. Select the desired option from the **Annotate** menu.

2. Place the cursor on the position where you want to start to highlight, blank-out, etc.

3. Press and hold the left mouse button and drag the cursor over the desired area and release the mouse button when finished.

    NOTE: If you want to change the highlight color, open the Annotation toolbox and choose the desired color.

Using the Polyline option

To use the Polyline option:

1. Select **Annotate>Polyline**.

2. Place the cursor on the position where you want to start to draw.

3. Press and hold the left mouse button and drag the cursor in the direction you want the line to go, releasing the button each time you want to start a new angle.

4. Double-click the right mouse button to deactivate the Polyline tool.

Using the Text option

To add text to your image:

1. Select **Annotate>Text.**

2. You can change the color and/or font on the message by using the color palette and Font button on the Annotation Toolbox.

3. Click the left mouse button to place the cursor where you want to add a text message.

4. Type the desired message.

5. When you have finished the text message, click the right mouse button to deactivate Text annotation.

Adding a note

You can attach a note to an image by using the Popup option.

1. Select **Annotate>Popup**. The PopUp window is displayed.

> NOTE: Depending on your last action, you may need to click the left mouse button to display the PopUp window.
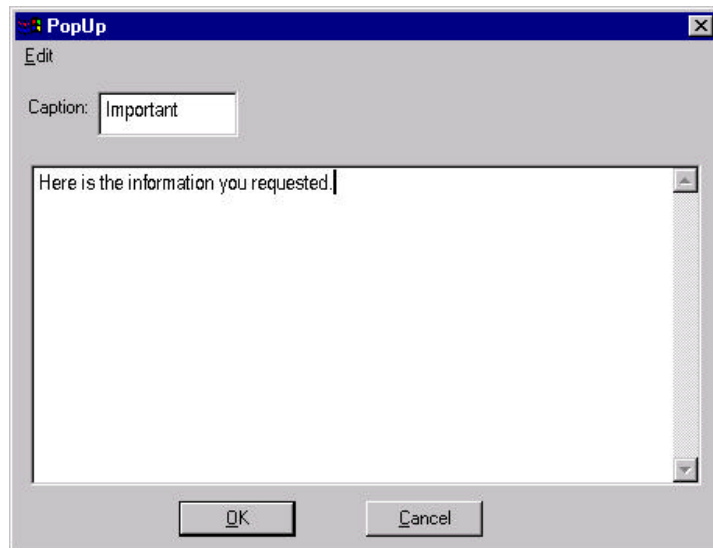
2. Enter the text of your note on the PopUp window.

3. When finished, click **OK**. The note will be displayed on the image as an icon.

To read annotation notes:

*   Select **Annotate>Select,** then double click on the note's icon in the image.

NOTE: Popup notes can be viewed but not printed.

Loading images

Use the Load Image… option to load a different image file into memory.

1. Select **Annotate>Load Image…**. The Load Image dialog box will be displayed:
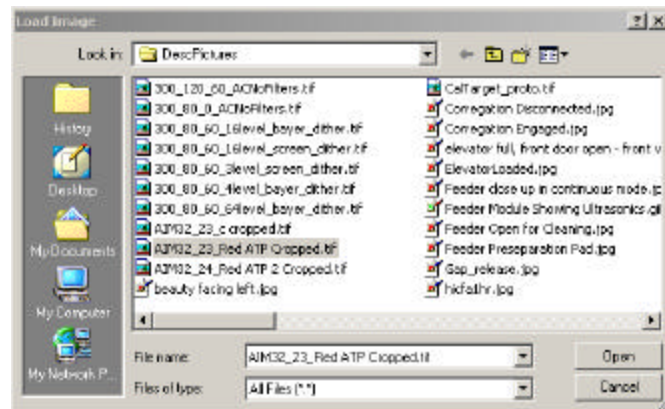
2. Select the desired directory.

3. Select the file type from the **Files of type** drop-down box.

4. Select the image file you want, or enter the file name of the desired image.

5. Click **Open**. The file you selected will be displayed in the Image display pane.

Creating a canned annotation file

The Canned option allows you to save annotation created for an image, for use on other images. This option is useful if you have many images that you want to apply the same annotation information to.

1. Retrieve an image.

2. Using the Annotation Toolbox and tools, create the desired annotation.

3. Select **Annotate>Canned>Save**. The Save Canned Annotations dialog box will be displayed:
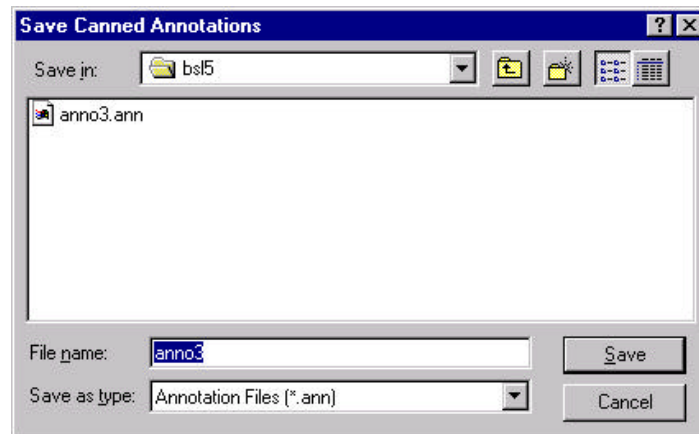
4. Select the folder where you want the annotation file to be saved.

5. Enter the desired file name. The file will be saved with a .ann file extension.

6. Click **Save**.

Using canned annotations

Once you have created annotation files, you can use the information in the annotation files to add the same information on other images. To do this:

1. Retrieve the image you want to annotate.

2. Select **Annotate>Canned>Load**. The Open Canned Annotations dialog box will be displayed:
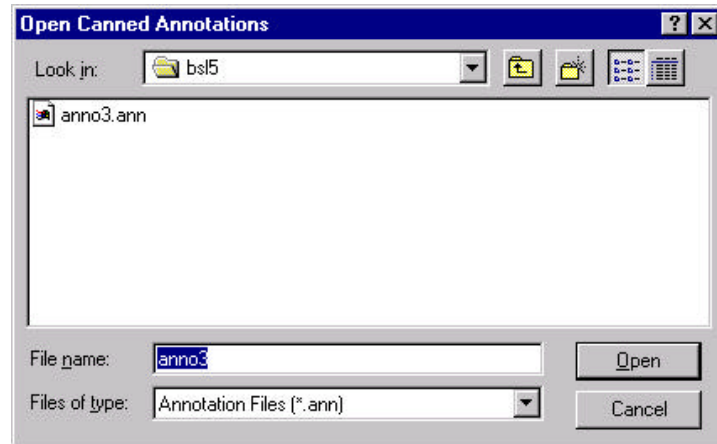
3. Select the desired annotation file.

4. Click **Open**. The annotation will be placed on the currently displayed image. For example:

Book 2 Image ¾ Using the Annotation Toolbox, the Text, Highlight and a Hollow Rectangle options were added to this image. These annotations were then saved as an annotation file.
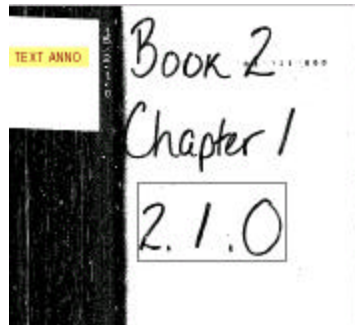
Book 3 Image — using the annotation file created on the Book 2 Image, the same annotation options were applied to this image.

Deleting annotation   To delete annotation:

1. Select **Annotate>Select**, and click on the annotation you want to delete.

2. Press the **DEL** (delete) key on the PC keyboard. The annotation will be deleted.

Resizing the application window

The Application window can be resized. To do this:

1. Start the Application Software. Click the **Restore** button in the Title bar. (The button will toggle to Maximize.)

2. Right mouse click on the Title bar to display the popup menu, and select **Size**.

3. Press the desired keyboard arrow key, e.g., to resize from the top of the window, press the Up arrow key. Drag the mouse to resize, then click with the left mouse button.

4. Repeat Steps 2 and 3 if necessary.

5. Once the window is sized, you can move it to the desired location by dragging from the Title bar.

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4. Repeat Steps 2 and 3 if necessary.

5. Once the window is sized, you can move it to the desired location by dragging from the Title bar.

4   Application Setup

This chapter provides the following:

- How to access the Application Setup option.

- Procedures for setting up a new application.

- Procedures for modifying and deleting existing applications.

Kodak provides predefined applications, for more information see Appendix D, *Productivity Tools*.

Accessing Application Setup

Retrieval applications can be created, modified and deleted using the Application Setup option accessed via the Setup menu.

- Select **Setup>Application**. The Select Application dialog box will be displayed:
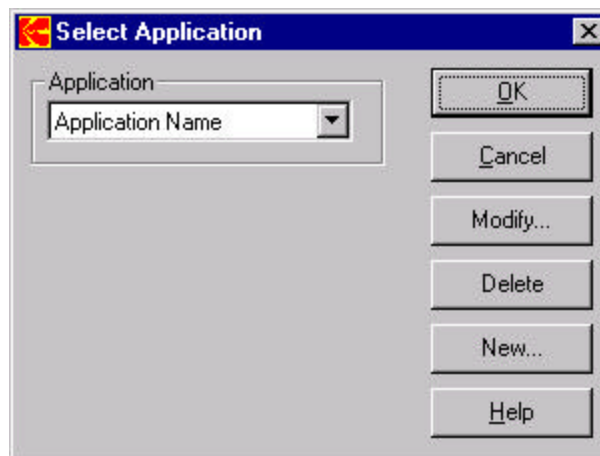
When the Setup Application dialog box is displayed, you may need to use the arrow keys located at the top of the dialog box to access all of the tabs.
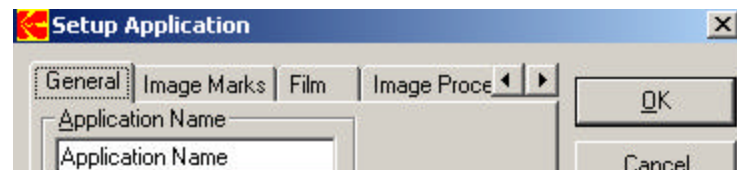
Setting up a new application

The Setup Application dialog box allows you to predefine retrieval and image processing parameters for a specific application. Click on each tab to set all the desired values. Do not click **OK** until you have made all of your selections on all of the tabs.

All tabs on the Setup Application dialog box have the following buttons:

OK — saves the values set on all of the tabs.

Cancel — closes the dialog box without saving any changes.

Help — displays the on-line help for the tab that is currently active.

Setting values on the General tab

1. **Application Name**. Enter any standard keyboard character(s), up to 20 characters.
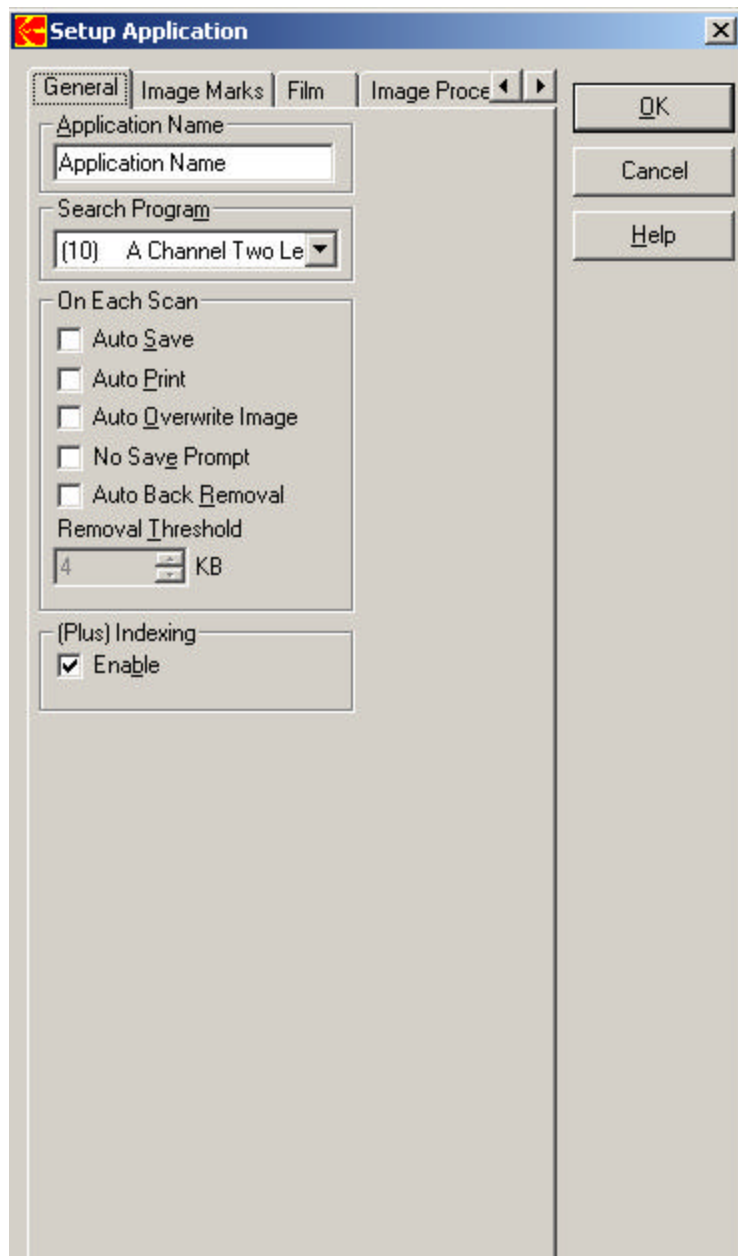
2. **Search Program**. Select the Search Program based upon the image marks on film you will be searching. These search programs are identified in Appendix B, *Search Programs.* Be sure the correct program is selected to match the film index format and image mark location channel.

   An odometer mode search program is also available, for use with film that contains no image marks, or image marks of poor quality.

3. **On Each Scan.** If you want to automatically save or print each time you scan, check the appropriate box: **Auto Save** and/or **Auto Print**. Auto Print should only be used if you are sure the film image quality is excellent and consistent.

   - **Auto Overwrite Image.** Select this option to eliminate the message displayed to the user that they are about to overwrite an existing file.

   - **No Save Prompt**. Select this option to eliminate the message that allows the user to save the currently displayed image.

   - **Auto Back Removal**: *for duplex images only.* Automatically removes the back of the image if the size of the image (back) is less than the size specified in the Removal Threshold box.

     NOTE: The **Separate Front and Back** option on the Image Processing tab must be enabled to use this function.

   - **Removal Threshold** box: Removal Threshold is used in conjunction with the Auto Back Removal option. A value from 1K to 100K can be entered in the box. The scanner will use the value entered to determine whether to remove the back of a duplex image. If the size of the back of the image is less than or equal to the value in this box, the back image will not be printed or saved. This option is available for both bi-tonal and grayscale images.

Determining the threshold value

Follow the procedure below to determine the threshold value.

- Disable Auto Back Removal.

- Set up your application with the options that you will be using with Auto Back Removal (i.e. auto cropping, scan output types, etc.).

- Insert a roll of film that you want to use the Auto Back Removal feature into the scanner.

- Scan a batch of images with and without content on the back of the image.

- Determine the largest file size of the blank backs and the smallest file size of the non-blank backs. To view the file sizes, Document Folder needs to be enabled (View>Document Folder), select the folder when the images are saved, and then select **View>Thumbnails> Details**.

- Set the threshold value to the size somewhere between the largest file size and the smallest file size.

4. **Plus Indexing**. Enable Plus Indexing if you want to advance across chapters within the film. If it is not enabled, you will not be able to advance across chapters within the film.

   NOTE: Plus Indexing must be enabled when using Browsing or Batch Scan.

**Setting values on the
Image Marks tab**

Use the Image Marks tab to define the type of image marks on the film associated with the application you are setting up. Do not click **OK** until you have made all of your selections on all of the tabs.

1. Select the Image Marks tab.
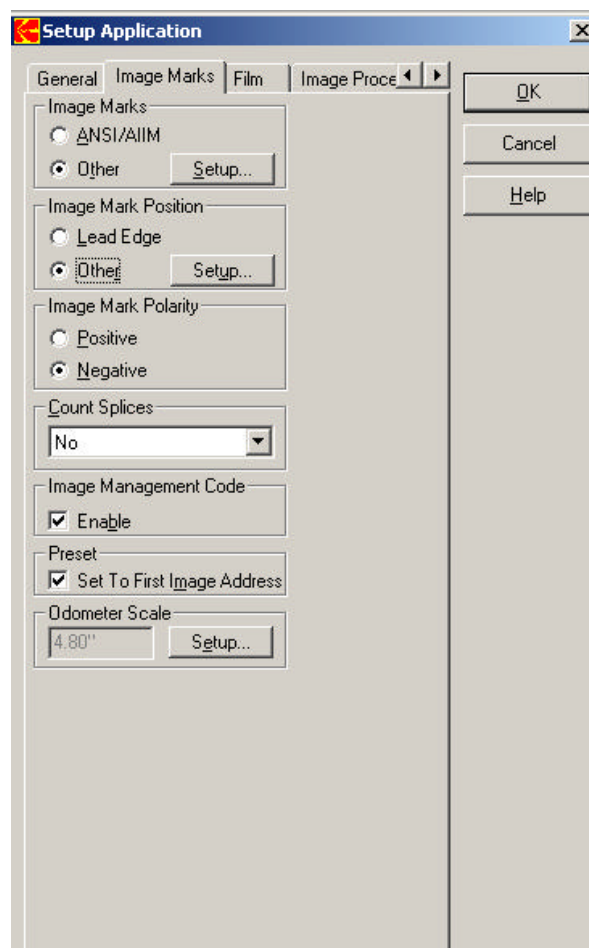
2. **Image Marks.** Select the type of image marks on the film, either **ANSI/AIIM** or **Other**.

    *   Select **ANSI/AIIM** if the image marks on the film meet ANSI standards (such as those on film created by a Kodak microfilmer). See Appendix A, *Microfilm Information* for more information regarding image marks.

    *   Select **Other**, if the image marks were created by a non-Kodak microfilmer and/or do not meet the ANSI standards. If you select **Other**, click **Setup** to display the Image Marks dialog box. See the section entitled, "Setting up non-ANSI/AIIM image marks" later in this chapter for more information.

3. **Image Mark Position.** Select the image mark position on the film.

    - Choose **Lead Edge** if the image marks are aligned with the lead edge of the image.
    - Choose **Other** if the image marks are located in any other position than the lead edge and then select **Setup…** to display the Image Mark Position dialog box. See the section entitled, "Determining the image mark position" later in this chapter for more information.

4. **Image Mark Polarity.** Select either **Positive** or **Negative.**

    - Choose **Positive** if the image mark is clear and the film has a black background.
    - Choose **Negative** if the image mark is black and the film has a clear background.

5. **Count Splices**. Make a selection from the Count Splices list box if you have splices on your film. Count Splices specifies whether splices on the film are to be counted as image marks. For more information about film splicing, see Appendix A, *Microfilm Information*.

    - **No** — do not count splices.
    - **Yes, as Large** — count splices as large image marks.
    - **Yes, as Medium** — count splices as medium image marks.
    - **Yes, as Small** — count splices as small image marks.

6. **Image Management Code**. Check the **Enable** checkbox to enable the scanner to read Kodak's Image Management Code (IMC). For more information about Image Management Code see Appendix C, *Glossary*.

    NOTE: This option **only** works with Kodak's Image Management Code.

7. **Preset**. The Preset option is used when the image address begins at something other than one (1).

- If **Set to First image address** is enabled, the preset image address will be assigned to the first image mark on the film.
- If **Set to First image address** is disabled, the preset image address assigned to the first image mark on the film will be incremented by one from the image address that was entered.

NOTES regarding Preset:

- The scanner will start counting at 1 (or 1.0 or 1.0.0) unless a preset image address is specified.
- The A and B presets remain in memory until the film is refiled.
- The preset image address that is specified will be affected by the Preset parameter in Application setup.
  - If the Preset parameter is enabled, the specified Channel A preset will be assigned to the first image mark in Channel A. The specified Channel B preset will be assigned to the last image mark in Channel B.
  - If the Preset parameter is disabled, the specified Channel A preset will be incremented by one and that value will be assigned to the first image mark in Channel A. The specified Channel B preset will be decremented by one and that value will be assigned to the last image mark in Channel B.

8. **Odometer Scale**. Setting up an odometer scale allows you to search film by odometer units rather than image marks. To set this value, select **Setup…** to display the Odometer Scale dialog box. See the section entitled, "Setting the odometer scale" later in this chapter for more information.

Setting values on the Film tab

The film format and reduction ratio of the images on film can be defined using the Film tab. Do not click **OK** until you have made all of your selections on all of the tabs.

1. Select the Film tab on the Setup Application dialog box.
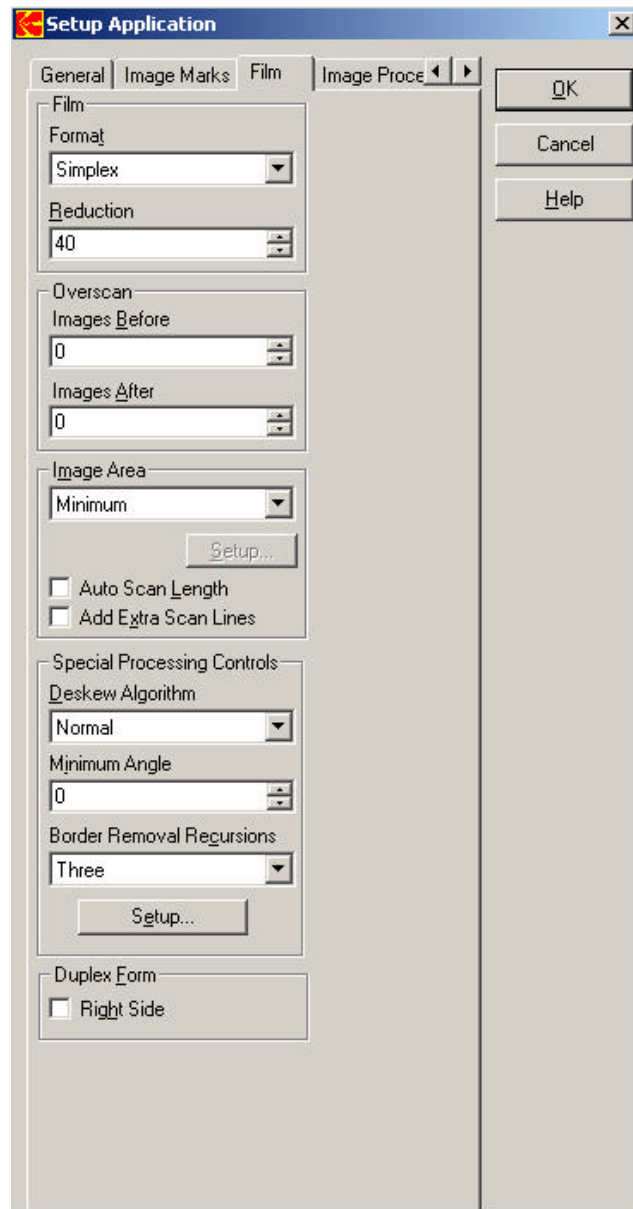
2. **Film Format**. Select the **Film Format** from the list box:

    *   **Simplex** — one image appears across the width of the film.
    *   **Duplex** — the front and back of the same image appears across the width of the film.
    *   **Duo/Duo Duplex** — images are filmed to the end of one side (channel) of the film, then other images are filmed on the other side (channel).

3. **Film Reduction.** Select the **Film Reduction** ratio for the film used. It is important that this value be accurate to achieve the correct print size results. Select a value from 1 to 59.

4. **Overscan.** If desired, select a value in the Images Before and/or Images After list boxes. Overscan is intended for use with single-level check, or similar-type applications (do not use with images larger than 8 ½" x 5" or A5).

   Enter a value from 1 to 5 in the Images Before and/or Images After fields. For example, if you enter 2 in the Images Before field, the scanner will begin scanning 2 images before the image address you actually requested. If you enter a number in the Images After field, it will scan that number of images past the one you requested.

   This function is useful when the image indexing is not perfectly accurate and may be off by a few images. When used with the Image Area definition, you will be able to view several consecutive checks on each scan.

   NOTES:

   - The larger the scan area, the larger the file size will be to process.

   - When Overscan values are specified, you should also enable **Auto Scan Length**, to achieve the best results.

5. **Image Area**. Select one of the image area options — **Minimum, Short, Medium, Long, Maximum** and **User defined**. The following illustration shows the difference between the smallest (Minimum) and the longest (Maximum) image area options. The Short, Medium and Long options will display an image area between the Minimum and Maximum image area.

Minimum Image Area

Maximum Image Area

The User defined option provides the greatest efficiency and flexibility in choosing the image area that meets your specific application needs since it allows you to customize the image area. If you select **User defined**, the **Setup…** button will be activated. Click **Setup…** to display the Select Image Area dialog box. See the section entitled, "Setting a User Defined image area" later in this chapter for more information.

NOTE: If User defined is selected, but the area is not subsequently defined, the software will default to using **Minimum**.

6. **Auto Scan Length**: Allows the software to determine scan length based upon the distance between image marks. Auto Scan Length only determines the length of the image, not the width. The width is still determined by the Image Area setting.

7. **Add Extra Scan Lines**: Adds extra scan lines to the end of each scanned image. If the space between the images on the film is tight, enabling this option can help ensure that you capture the entire image.

   - If **Normal** resolution is selected, 100 scan lines will be added.
   - If **Enhanced** resolution is selected, 200 scan lines will be added.

Special Processing Controls

The following options are used to improve auto cropping, deskew and border removal.

8. **Deskew Algorithm**: *this option requires Auto Deskew to be enabled on the Control Panel.* Two deskew algorithms are available, **Normal** and **Best**.

   - **Normal** — processes the image faster and does a good job at deskewing the image.
   - **Best** — takes longer to deskew the image and provides the best deskewed quality.

   Minimum Angle*:* enter a deskew angle from 0 to 45 degrees. The software will deskew the scanned image if the angle of skewed image is equal to or more than the value in this field. It is suggested that you set a value 5 degrees or less.

9. **Border Removal Recursions**: the number of times (one, two or three) the system will attempt to determine and remove the boundaries of the image. Three is the default. Longer processing times are required for each attempt.

Even though you may enter a value of 3 in this field, the system may remove the border the first or second time, therefore making the third attempt unnecessary. The system will only use the number of times necessary to remove the border, regardless of the entry in the field.

NOTE: The Setup option is for use by Kodak Field personnel only.

10. **Duplex Form**: for duplex mode only. Enable this option if the front side of the image is located on the right side of the film.
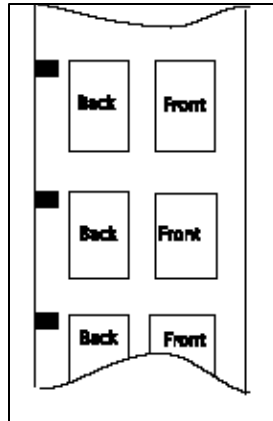
Setting values on the Image Processing tab

The options on the Image Processing tab are selected based upon how you want to alter the image. Do not click **OK** until you have made all of your selections on all of the tabs.

1. Select the Image Processing tab to set the image processing values.
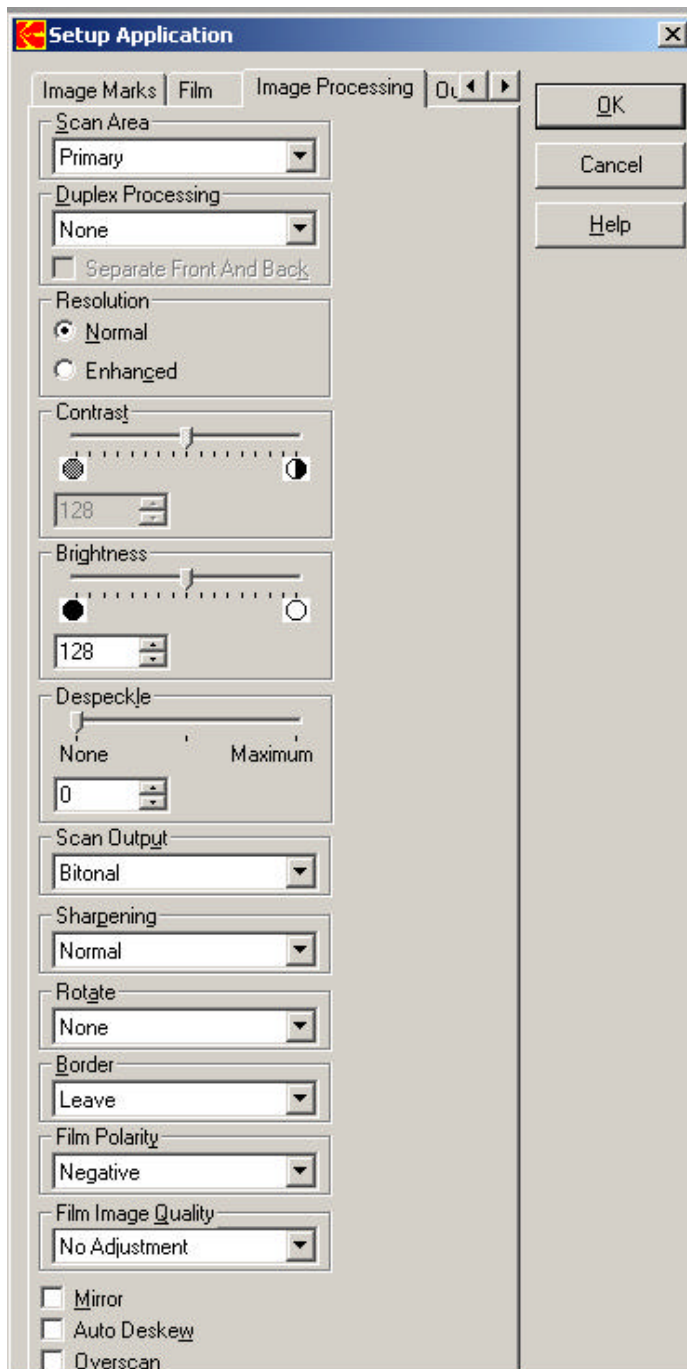
2. **Scan Area.** Select an option in the Scan Area. This option determines the area of the film that the image processing settings are applied to.

  - **Primary** — applies to the image area that is defined in the Application setup.

    Use Front and Back for duplex processing applications:

  - **Front** — select **Front** if you want to set/change the image processing characteristics of the front side image different from the back.

  - **Back** — select **Back** if you want to set/change the image processing characteristics of the back side image different from the front.

  - **Film View** — allows image processing parameters on the Image Processing tab to be applied in the Select Overscan and Duplex Processing dialog boxes and Scrolling window. The default is 256 Gray.

3. **Duplex Processing**. If you want Duplex Processing, select **Manual** or **Automatic** processing. For Duplex Processing you can have different image processing settings for front and back for the following: Contrast, Brightness, Despeckle, Sharpening, Rotate and Border remove.

  - **None** — to process the front and back sides with the standard horizontal view. Does not allow for separate processing of front and back side images. This is the default.

  - **Manual** — the Duplex Processing dialog box is displayed after each scan, which allows you to specify the front/back areas (masks) of the image.

  - **Automatic** — uses the last specified manual area settings to automatically display the duplex image in vertical duplex processing view. If the image size changes, then the masks will have to be changed. If the distance between image marks vary, then the masks may also have to be changed.

    After the front and back sides are displayed vertically, you can then apply separate image processing values to the front or back, if desired.

  If you choose **Automatic** duplex processing, you must first set the Manual duplex processing settings. See the section entitled, "Setting Manual and Automatic duplex processing" in Chapter 4 for more information.

4. **Separate Front and Back** — check this option when you want to create two separate image files; one file for the front of the duplex image and one file for the back of the image (see the illustration below). This is useful for printing fronts and backs on separate sheets of paper.

With Separate Front and Back enabled ¾ two separate files

100F.tif   **100B.tif**

With Separate Front and Back disabled ¾ one file
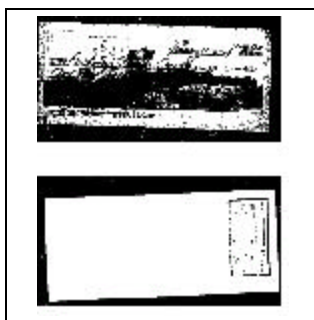
100.tif

The Naming Convention Properties dialog box, accessed from the Output tab, allows you to specify the file naming convention. If values are not specified for the Areas parameters, file names that distinguish between duplex front and back cannot be created. Therefore, you must use the Areas parameters (Primary, Front and Back) when **Separate Front and Back** is enabled. For more information, see "Changing naming convention properties" later in this chapter.

5. **Resolution**. Select the type of resolution desired. **Normal** is usually best for films with reduction ratios less than 40X. **Enhanced** is usually best for films with reduction ratios greater than 40X. Try both on your films and decide which is best for your needs.

6. **Contrast**. Select a Contrast setting from Low (⬤) to High (◐) or enter the contrast value in the text field. Valid values are 0 to 255. For gray scale images only.

- A low contrast value produces a scanned output of mostly midtones (more subtle change in gray levels are detected).

- A high contrast value produces a scanned output of mostly blacks and whites (only large changes in gray levels are detected).

7. **Brightness**. Select a Brightness setting from Low (⬤) to High (◯) or enter the brightness value in the text field. Valid values are 0 to 255.

- A low brightness value produces a darker image.

- A high brightness value produces a lighter image.

8. **Despeckle**. Select a Despeckle value to reduce the amount of noise or stray spots (specks, etc.) on an image. Select a value of 0, 1 or 2 from the list box or use the slide bar to make a despeckle selection. The value you select will depend on how clean or speckled the image is. If there are no specks on the image, select **0**. Despeckle is for bi-tonal images only.

9. **Scan Output**. Select the desired Scan Output depending upon the type of images in the application.

- **Bi-tonal**: each image will be processed as a single-page TIFF file using CCITT Group 3 or 4 compression (for black and white images).

- **16 gray**: each image will be processed as a single-page TIFF file using JBIG compression (for 16-level gray scale images).

- **256 gray**: each image will be processed as a single-page TIFF file using JPEG compression (for 256-level gray scale images).

NOTES:

- For Duplex Processing, the Scan Output setting must be the same for both the Front and Back settings.

- When Film View is selected as the Scan Area, it is suggested that you select 256 gray as the Scan Output.

10. **Sharpening**. Select a Sharpening option.

- **Normal**: used to accentuate the fine details of an image. Normal is typically used to enhance the detail of an image which contains small print.

- **Low**: used to enhance images containing dot matrix text and/or images printed with shaded or colored backgrounds using halftone screens. This option reduces background noise.

- **Photo**: if the image is comprised mainly of photographs.

- **Photo & Text**: if the image is a mix of text, line art, and photographs (i.e., for check camera-sorter films).

- **Text**: if the image is mostly text.

11. **Rotate**. Select a Rotate option to specify whether images will be rotated when displayed:

- **None**: to process the image in the original orientation.
- **90° Clockwise**: to process the image rotated 90° to the right.
- **180° Clockwise**: to process the image rotated 180° to the right.
- **270° Clockwise**: to process the image rotated 270° to the right.

12. **Border**. Select a Border option if desired.

- **Leave**: keeps the border around the image.
- **Auto Crop**: removes the border from around the image and reduces the image file size. For bi-tonal and grayscale images.
- **Border remove**: hides the border from around the image. For bi-tonal and grayscale images.

   NOTE: When using the Border option, the entire image (all borders) needs to be visible in the image area so the image can be captured properly.

13. **Film Polarity**. Select the Film Polarity of the film.

- Choose Positive if the original image is a clear background with black text.
- Choose Negative if the original image is a black background with clear text. This is the default.

14. **Film Image Quality.** Used with bi-tonal or gray scale output to improve readability of images from a film that is too light or too dark. It can also improve low contrast images. This feature widens the range between the lightest and darkest pixel in the image. Select one of the following options if desired:

- **No Adjustment**: no enhancement.
- **Light Film**: if film is light, it makes the dark areas darker, making it easier to read.
- **Normal Film**: if film has the correct exposure but low contrast, this option adds contrast to the image, making it easier to read.
- **Dark Film**: if the film is dark, it lightens the background and other areas that should be lighter, making the image more readable.

15. **Mirror**. Select **Mirror** if the film has been wound incorrectly on the reel and the image appears as if it was being viewed in a mirror and is "reverse-reading".

16. **Auto Deskew**. Check **Auto Deskew** to automatically straighten the image

   NOTE: When using the Auto Deskew option, the entire image (all borders) needs to be visible in the image area so the image can be captured properly.

17. **Overscan**. Check the Overscan option to enable scanning and display of a specified number of images before and after the image requested. The before and after values are defined on the Film tab. Overscan is useful for film with poor image alignment within the film frame, such as 3890 single-level check film.

   NOTE: When Overscan is enabled, you should also enable **Auto Scan Length** on the Film tab, to achieve the best results.

Setting values on the Output tab

The Output tab allows you to set up file saving options, compression level and how you want the image to be printed, faxed or emailed.

1. Select the Output tab.
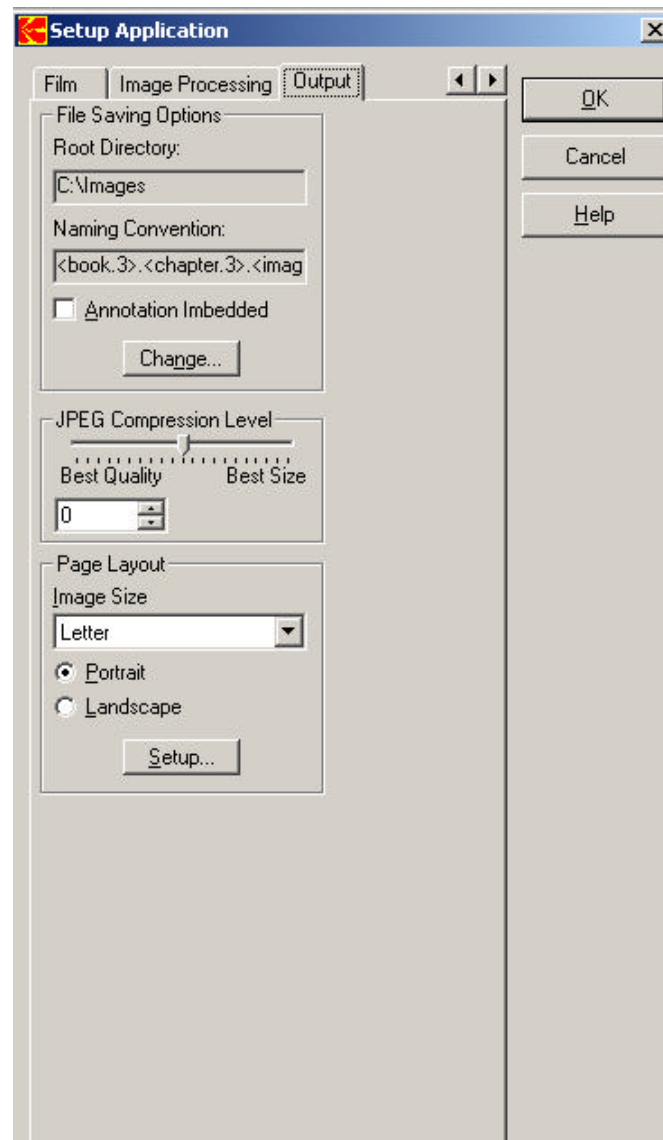
2. **File Saving Options**. If you want to save images to a non-default location and/or file names, select **Change…**. The Naming Convention Properties dialog box will be displayed.

See the section entitled, "Changing naming convention properties" late in this chapter for more information.

- **Annotation Imbedded**: when this option is enabled, any annotation that is included with an image will become part of the image bitmap.

  NOTE: If this option is not selected and the image is saved in TIFF format, the annotation is saved in the TIFF tags.

  If the image is saved in JPEG format (whether **Annotation Imbedded** is selected or not) the annotation is always imbedded.

3. **JPEG Compression**: To control the quality and size of an image you can select a JPEG compression level from Best Quality to Best Size. **Best Quality** provides the best quality image but the file size will be larger. **Best Size** provides a good quality image with a smaller file size. JPEG compression levels range from -10 to +10.

4. **Page Layout**: Provides image size and orientation options.

   - **Image Size**: select one of the choices from the drop-down box: Letter, Legal, Ledger (11x17), 8 ½ x 5 ½, A3, A4, A5, A6, B4, B5 and Scanned Image Size.

   - **Portrait** where the image is displayed in the shape of a conventional portrait, where height is greater than width or **Landscape**, where the image is displayed in the shape of a conventional landscape painting, where width is greater than height.

   - Click **Setup** to display the Page Layout dialog box. See the section entitled, "Setting page layout options" later in this chapter for more information.

Changing naming convention properties

The Naming Convention Properties dialog box allows you to change the file naming rules and the root directory where images will be saved. From the Output tab:

From the Output tab:

1. Select **Change…** from the File Saving Options. The Naming Convention Properties dialog box will be displayed.

   The software automatically creates a directory on the hard drive of the PC and names the images. If you do not create or select a different directory, the images will be saved to this default directory.
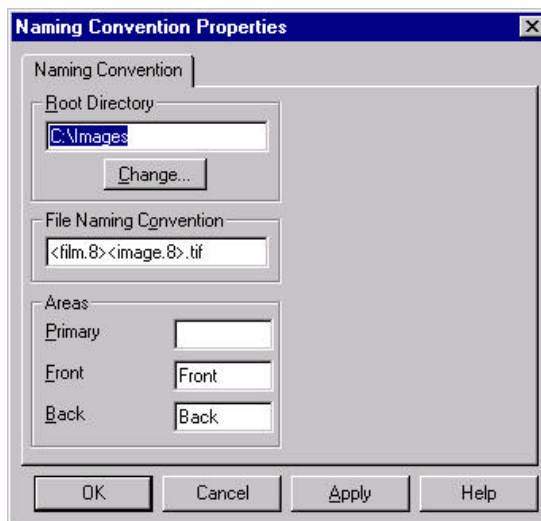
2. Enter the desired Root Directory. The **Change…** button allows you to browse for a specific folder using Windows Explorer.

   - If you choose to enter the root directory directly in the Root Directory text field, you cannot use a UNC name and you have to map a drive. For more information, refer to Windows Explorer on-line help, "UNC Name", and "map a drive".

   - If you use the **Change…** button to select a directory, the root directory will be entered into the field correctly.

     NOTE: The directory must already exist to be selected.

3. Specify the naming convention as to how you want the files saved in the File Naming Convention area (up to 100 characters, including the file extension).

The image address can be part of the name given to the image. Special keywords are used in this field by default, they are: book (level 3), chapter (level 2), image (level 1) and area (determines whether the value in **Primary**, **Front** and/or **Back** in the Areas section) is included in the file names.

NOTE: Front and Back values will be used only when Duplex Processing is enabled, and Separate Front & Back is checked (both on the Image Processing tab).

These keywords are denoted enclosed in angle brackets (< >). i.e., <book.*n*>.<chapter.*n*>.<image.*n*><area>.TIF.

Any other non-keyword values will be used in the file name exactly as they are specified here. You can use any alphanumeric character, and special file naming characters, such as an _ (underscore), or - (minus sign), or space. Other special characters are not recommended.

book, **chapter** and **image** (also referred to as: Folder, Document and page) can use an optional parameter (.*n*) to indicate the number of characters which will be saved for those parts of the file name.

Roll or **Film** number can be used as an optional keyword to indicate the roll number if available from the lead end coding on the current roll of film.

Example 1 ¾ using the optional parameter (.n)*n*)
If the file naming convention was set to <book.3>.<chapter.4>.<image.5><area>.tif, the resulting image file name would be as follows if the current image address is 10.14.145:

- If Separate Front and Back is not enabled on the Image Processing tab and Areas-Primary is set to P, then the resulting file name would be 010.0014.00145P.TIF.

- If Areas-Primary is not defined with a P, the resulting file name would be 010.0014.00145.TIF.

- If Separate Front and Back and Duplex Processing are both enabled on the Image Processing tab, and Areas-Front is set to F, and Areas-Back is set to B, then the resulting file name for the front would be 010.0014.00145F.TIF and the back would be 010.0014.00145B.TIF.

Example 2 ¾ using no optional parameter

If the file naming convention was set to
<book>.<chapter>.<image><area>.tif, the resulting image file
name would be as follows if the current image address is
10.14.145:

- If Separate Front and Back is not enabled on the Image
  Processing tab, and Areas-Primary is set to P, then the
  resulting file name would be 10.14.145P.TIF.
- If the Areas-Primary is not defined with a P, the resulting file
  name would be 10.14.145.TIF.
- If Separate Front and Back and Duplex Processing are both
  enabled on the Image Processing tab, and Areas-Front is set
  to F, and Areas-Back is set to B, then the resulting file name
  for the front would be 10.14.145F.TIF and the back would be
  10.14.145B.TIF.

Example 3 ¾ using non-keyword value

If the file naming convention was set to: file<image>.tif, the
resulting image file name would be as follows if the current image
address is 145:

- If Separate Front and Back is not enabled on the Image
  Processing tab, and Areas-Primary is set to P, then the
  resulting file name would be file145P.TIF.
- If the Areas-Primary is not defined with a P, the resulting file
  name would be file145.TIF.
- If Separate Front and Back and Duplex Processing are both
  enabled on the Image Processing tab, and Areas-Front is set
  to F, and Areas-Back is set to B, then the resulting file name
  for the front would be file145F.TIF and the back would be
  file145B.TIF.

File naming conventions can be used to ensure unique file names
are used when saving images from multiple cartridges within the
same directory.

NOTE: The Front and Back values indicated in the Areas section
(including a blank field) should be unique or you could
overwrite your front image with the back image.

4. Click **Apply** to accept the values, then click **OK** to close the
Naming Convention Properties dialog box.

Setting up non-ANSI/AIIM image marks

If the film you are retrieving images from has image marks that do not meet the ANSI standards because the film was created by a non-Kodak microfilmer, use the **Other…** option on the Image Marks tab to define the image mark size.

1. Select **Other**.

2. Click **Setup** to display the Image Marks dialog box. Use this dialog box to adjust the minimum and maximum values for each image mark size.

3. You can enter the value in the text field or use the arrows to scroll to the desired value for each image mark size.
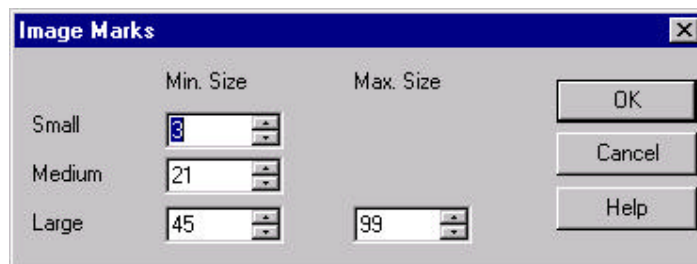
- **Small Minimum Size** — specifies the minimum size of image marks that will be interpreted as "small" by the scanner. Select a value from 1 to 96.

- **Medium Minimum Size** — specifies the minimum size of image marks that will be interpreted as "medium" by the scanner. Select a value from 2 to 97.

- **Large Minimum Size** — specifies the minimum size of image marks that will be interpreted as "large" by the scanner. Select a value from 3 to 98.

- **Large Maximum Size** — specifies the maximum size of image marks that will be interpreted as "large" by the scanner. Select a value from 4 to 99.

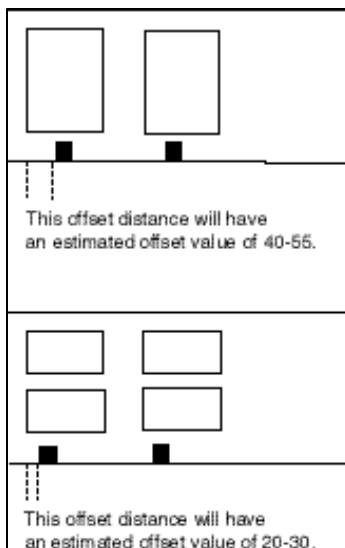4. Click **OK** to save image mark size values.

Determining the image mark position

The scanner requires that the leading edge of the image marks be located even with the leading edge of the document images. Some microfilmers place image marks after the leading edge of document images. The Image Mark Position enables you to work with image marks that have been placed in a non-standard location in relation to the images.

1. From the Image Marks tab, select **Other** if the image marks are located in any other position than the lead edge.

2. Select **Setup…** to display the Image Mark Position dialog box.

3. Select a value from 1 to 99. The offset number will increase as the image marks move further from the lead edge of the document. For example:

This offset distance will have an estimated offset value of 40-55.

This offset distance will have an estimated offset value of 20-30.

NOTE: You cannot enter a negative offset value.

You can also use an eye loupe to measure the distance between the image mark and the lead edge of the image. Divide this value by .003 inches. This is the offset value that will be entered in the Image Mark Position dialog box.

4. Click **OK**.

Setting up the odometer scale

Some older microfilms are indexed with odometer units instead of image marks. The scanner can search odometer film as well as film with image marks. To set an odometer unit:

From the Image Marks tab:

1. Select Odometer Scale **Setup…** The Odometer Scale dialog box is displayed:
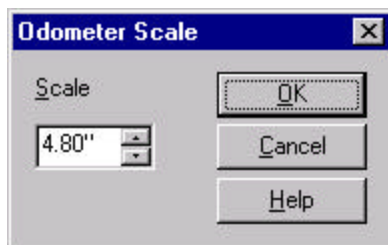
2. Enter a value in the Scale field. The value must be a whole number between .050 and 12.0, and an increment of .050.

    NOTE: This value represents how many inches 1 odometer unit is equal to. For example, an odometer scale of 4 inches means that 1 odometer unit is equal to 4 inches. Odometer units are entered in the Image Retrieval keypad to specify the distance to advance the film during retrievals. For more information see the section entitled, "Using the odometer mode" in Chapter 3.

3. Click **OK** to save the value and close the dialog box.

Setting a User Defined image area

When you are setting film parameters and you want to define a custom image area, use the **Setup** option on the Film tab.

From the Film tab:

1. Select **User defined** from the Image Area drop-down list.

2. Click **Setup…** to display the Select Image Area dialog box.

3. Load the film in the scanner.

4. Enter the desired image address using the dialog box keypad. The scanner will locate and display the requested image. The green selection box indicates the current user defined image area and is used to define a new image area. This will be the area that is scanned and displayed during retrieval. You will see the full width of the film including the image marks.

   NOTE: The current image address is shown at the top-most image mark. If you select any image below this image mark, the image addresses will become offset from the actual image.
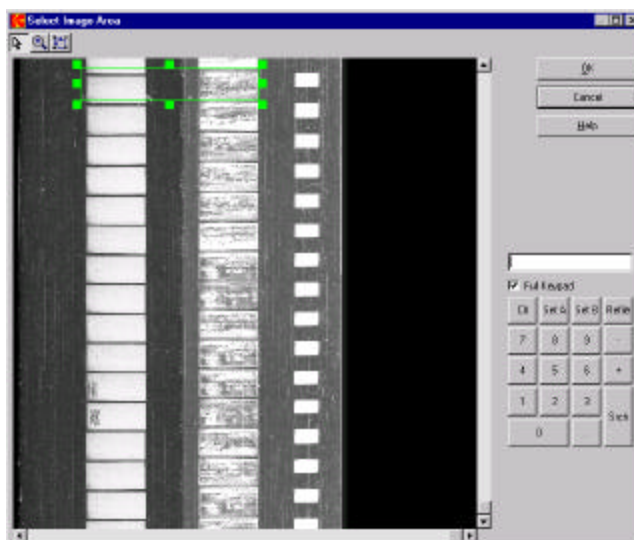
5. To activate the green selection box, click on the **Image Area** tool.

   To change the size of the selection box, use the handles. The box should only be as large as necessary.

   To define a new image area, click the mouse with the arrow outside of the green selection box. The box will disappear. Hold the left mouse button and drag the cursor diagonally to define the desired area.

   NOTE: The Zoom tool may be used to enlarge the viewing area.

5. Click **OK** when finished.

Setting page layout options

The Page Layout dialog box provides options which allow you to position the displayed image where you want on a sheet of paper for printing, faxing or emailing. You can also add annotation to every page automatically.

From the Output tab:

1. Select Page Layout **Setup…** The Page Layout dialog box is displayed:
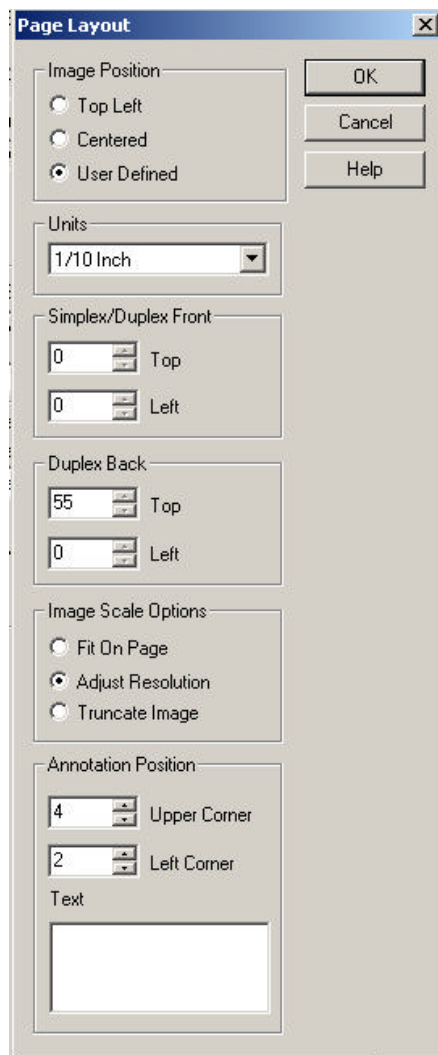
2. **Image Position:** The Image Position option on the Page Layout dialog box allows you to adjust the placement of the image.

   - **Top Left:** places the image in the upper left corner of the paper.
   - **Centered:** centers the image on the paper.
   - **User defined:** allows you to adjust the placement of the image. When you select **User defined**, the Simplex/Duplex Front, Duplex Back and Image Scale Options will be available.

   NOTE: If **Scanned Image Size** is selected as the Page Layout on the Output tab, you cannot change the Image Position.

3. **Units**: Select either **1/10 Inch** or **Millimeter**. The unit measurement is based on paper size, not how the image is displayed on the screen.

4. **Simplex/Duplex Front**: select a value for image placement on the paper. The value you enter is equal to 1/10 of an inch (or millimeters, depending on how your system is set up). Therefore, if you enter 5/5 in the Top and Left fields respectively, the front of the image will be placed in the upper left corner of the page. Refer to the following illustrations and table to aid in image placement.

PORTRAIT

Left = X

Paper Size = Letter

Top = Y 0   10   20   30   40   50   60   70   80 85

Top Left Front 5/5 10

Front of image

20

30

40

50

60

Top Left Back 55/5 70

Back of image

80

90

100

Text annotation

Top Left Annotation 100/5 110

LANDSCAPE
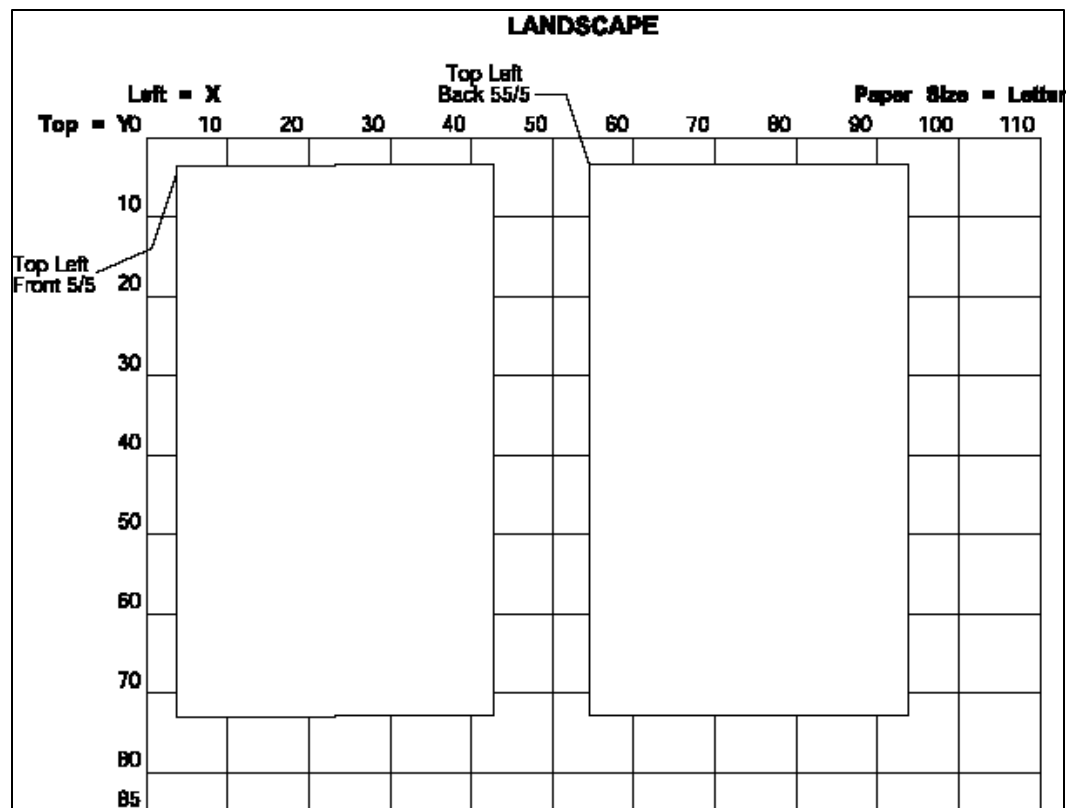
The following table provides the maximum values of paper width and length:

Image Size	Units = 1/10 inch Maximum		Units = Millimeters Maximum	
	Length	Width	Length	Width
Letter	110	85	279	216
Legal	140	85	356	216
Ledger	170	110	432	279
8.5 x 5.5	85	55	216	140
A3	165	117	420	297
A4	117	83	297	210
A5	83	58	210	148
A6	58	41	148	105
B4	139	98	354	250
B5	101	72	257	182

5. **Duplex Back:** select a value for image placement on the paper. The value you enter is equal to 1/10 of an inch (or millimeters, depending on how your system is set up). Therefore, if you enter 55/5 in the Top and Left fields respectively, the back of the image will be placed in the center of the page at the left margin. Refer to the previous illustrations and table to aid in image placement.

NOTE: If you use the same coordinates in the **Simplex/Duplex Front** and **Duplex Back** fields, your images will overlap one another.

6. **Image Scale Options:**

- **Fit on page:** scales the displayed image to fit on the defined page size. The resulting resolution of the final image* will be the same as what was defined by the combination of Reduction setting (on the Film tab) and defined Image size (on the Output tab). For example, a reduction setting of 24X will produce a Normal image resolution of 233 dpi, no matter how small or large the scanned image is. A Reduction setting of 40X will produce a Normal image resolution of 140 dpi, no matter how small or large the scanned image is.

  Use this option if you want a fixed resolution for every image produced.

- **Adjust Resolution**: adjusts the resolution of the final image to match the scanned image size resolution. Selecting this option will adjust the resolution of **each** final image to match the resolution of each scanned image. The final image* will remain the same size dimensionally as the image size selected from the Image Size drop-down box on the Output tab.
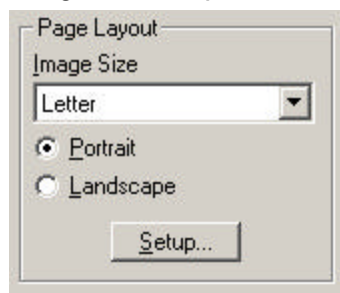
  For example, a 40X check-sized image will produce a resolution of 178 dpi, whereas an 8 1/2 x 11-sized image will produce a resolution of 208 dpi.

  Use this option if you do not want the same resolution for every final image.

- **Truncate image:** based on the selected paper size and the reduction setting, the scanned image will not be scaled up or down and may be cut off if it is larger than the defined image size.

  Use this option if it doesn't matter if some images have been cut off.

  NOTE: The values selected on the Print Options dialog box are independent of the values selected on the Page Layout dialog box.

* The final image is the image that will be printed, faxed, viewed, saved or emailed.

6. **Annotation Position:** enter your text annotation in the Text box and set the Upper Corner and Left Corner position as to where you want the annotation to appear on every image. Your text message will appear on every image within the batch in the designated location. Typically annotation is positioned at the top or bottom of the image. In order for the text annotation to print, the **Print Annotation** option on the Print dialog box must be enabled.

NOTE: To stop printing the text annotation that is entered in the text box on the Page Layout dialog box, delete it from the annotation box.
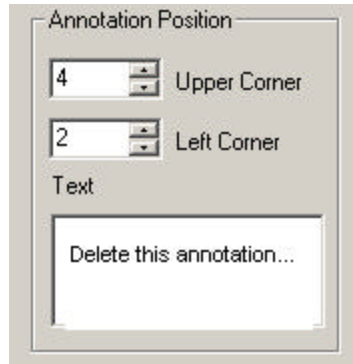
The current date and/or time can be automatically entered along with the annotation. To do this:

- Enter your message text and then enter @time and/or @date. The system will automatically generate the current time and date on your message.

  NOTE: If the 40-column CAR command (Command XXT) is used, it will override the @time and/or @date you entered in the text box.

Modifying an existing application

Modifying applications is similar to creating a new application. Refer to the previous section entitled "Setting up a new application" if you need a description of the fields on the tabs.

To modify an application:

1. Select **Setup>Application**. The Select Application dialog box will be displayed:
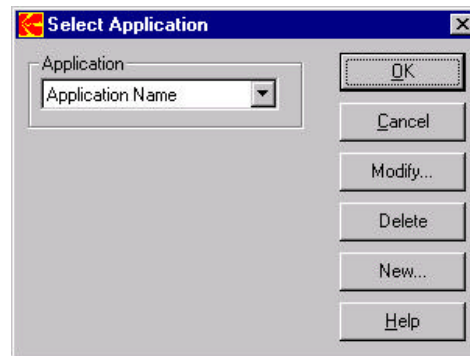
2. Select the application you want to modify from the Application drop-down box.

3. Select **Modify**. The Setup Application dialog box will be displayed:
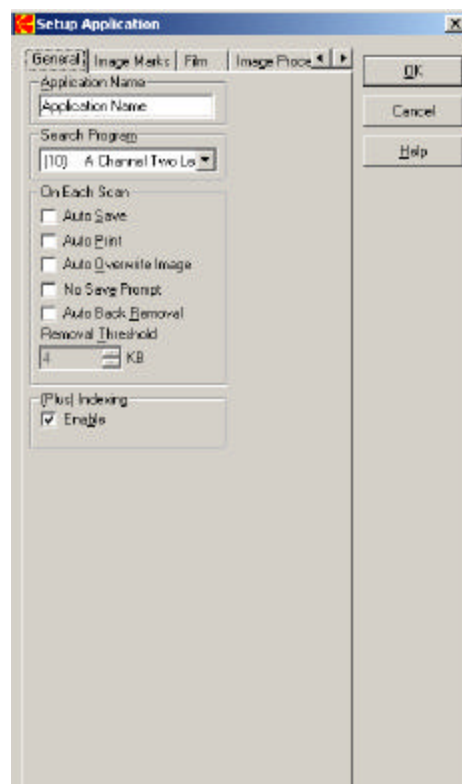
4. Make any changes required on each of the tabs.

5. When all changes are made, click **OK**.

Deleting an application

Existing applications can be deleted by using the Select Application dialog box. To delete an application:

1. Select the application you want to delete from the Application drop-down list box.
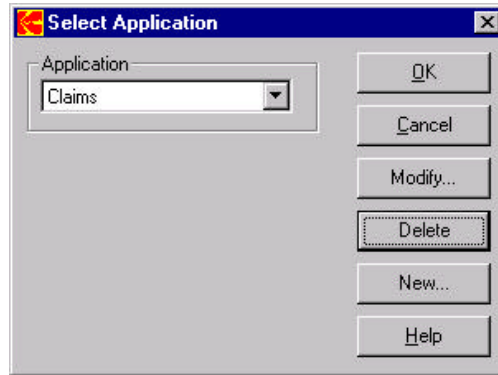
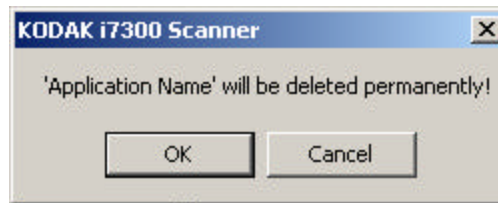2. Click **Delete**. The following message will be displayed:

3. Click **Yes** to delete the selected application. The application you selected will be deleted.

5 Setting up CAR Applications

This chapter provides procedures that allow you to use CAR applications with the scanner.

If you have purchased CAR functionality and if *CAR* does not appear on the menu bar, call Kodak service.

The scanner can accept image addresses, commands and text messages from a Computer-Aided Retrieval (CAR) system in three ways:

- **Download** — image addresses and text messages are loaded in the scanner memory registers. You recall data from one register at a time and perform the desired search, print, fax or e-mail function for each.

- **Batch Download** — commands, text messages, and image addresses are loaded in the scanner memory registers. A message appears when a batch download is sent to the scanner. You can process the registers right away or later; and you can process the registers one at a time or let the scanner automatically process the entire download.

- **Direct search** — image addresses, text messages, and commands can be sent directly to the scanner (not loaded into registers). Only one piece of data can be sent at a time, and must be processed before another can be sent.

Setting up CAR communication and modes

Before you begin processing CAR commands, CAR communication and modes should have previously been set up. It is suggested that you record these settings, in case you need to change them for some reason.

Setting up CAR communication

To set up CAR communication:

1. Select **CAR>Setup>Communication…** from the main window. The Setup CAR Communication dialog box will be displayed:
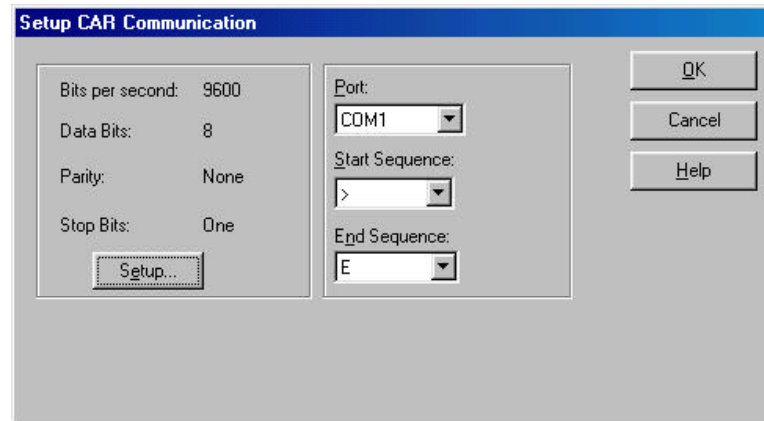
2. Select the desired port you want to connect to. Do not select the same port as the film controller.

3. Select the **Start Sequence**. The Start characters can be >>>, <<<, @@@ or any printable ASCII character repeated three times. The Start Sequence can also be set to **None**, for no Start sequence.

4. Select an **End Sequence**. The characters E, \, or <EOT> can be used as the end of transmission characters and should ignore all transmissions that follow the end of transmission character until the next Start characters are received by the scanner. If no start sequence is selected, then no particular end sequence needs to be set.

Changing the CAR communication settings

If you need to change any of the settings listed on the Setup CAR Communication dialog box. If you change these settings, the Bits per second, Data bits, Parity and Stop bits must match the same settings defined on the CAR system.

To change the CAR communication settings:

1. Select the Port where you want to change the settings.

2. Click **Setup**…The COM Properties dialog box will be displayed.
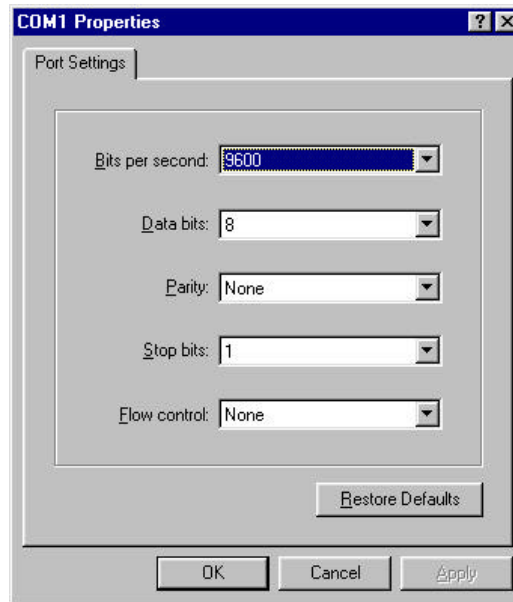
3. If you need to make any changes in the Port settings, select the option and change as desired.

    NOTE: To restore the default values on the Port Settings tab, click **Restore Defaults.**

4. Click **Apply,** then click **OK.**

Setting up CAR modes

Setting up CAR modes is a way to allow a remote CAR host to change values in the application parameters. This function is used primarily to support the A, B, and D commands. To set up CAR modes:

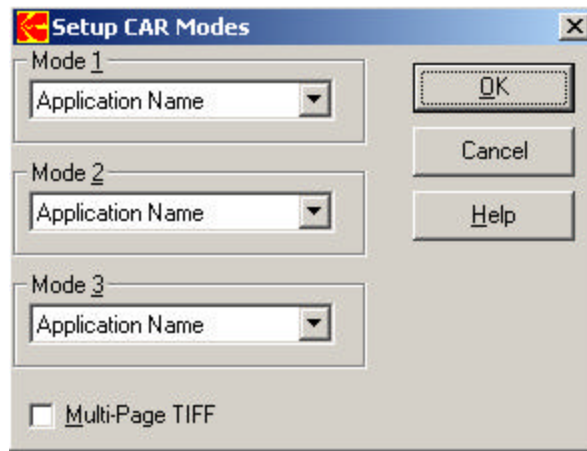1. Select **CAR>Setup>Modes…** from the main screen. The Setup CAR Modes dialog box will be displayed:

2. From the **Mode 1** list box, select the application name that you want to correspond with CAR Mode 1. (Command A)

3. From the **Mode 2** list box, select the application name that you want to correspond with CAR Mode 2. (Command B)

4. From the **Mode 3** list box, select the application name that you want to correspond with CAR Mode 3. (Command D)

5. Enable **Multi-Page TIFF** if you want to take any batch scans done through CAR and save them as a multi-page TIFF file.

6. Click **OK** when all modes are set up as desired.

Sending a Ready message

After processing a download, batch download, or direct command, you can indicate you are ready for more input. To do this:

• Select **CAR>Ready**.

NOTE: This function is applicable only when using a *Kodak* CAR Interface configured as listen-talk.

Processing Download requests

The Download menu allows you to start and stop downloads, batch downloads and direct search transmissions. It also allows loading of previously saved download and batch download files to the scanner memory registers. Diagnostic capability is provided through the Dump menu options.

Starting and stopping a Download job

When the CAR Interface Software is installed, the Application Software starts automatically, with Start Download Job enabled. No action is required unless an error message indicates the need to restart the CAR application, which is done by selecting **Download>Start Download Job**.
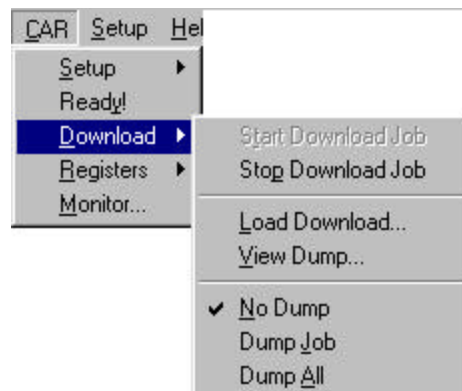
Loading a previously saved Download file

To open a previously saved Download file:

1. Select **Download>Load Download…** The Open Download File dialog box will be displayed:
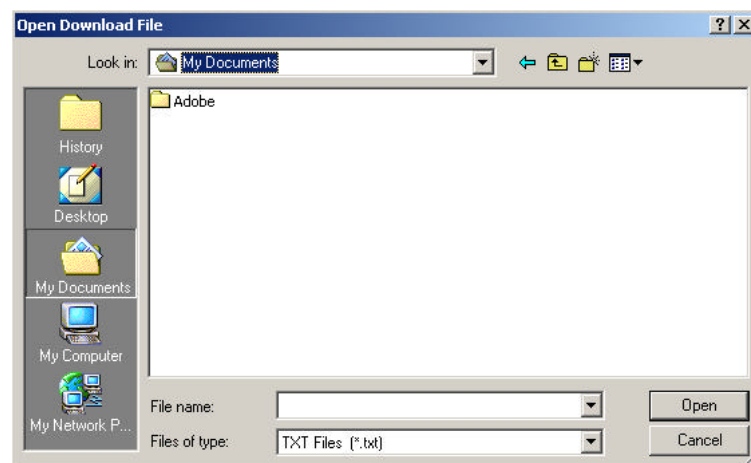
2. Enter the file name of the file you want to download or select the file from Look In.

3. Click **Open**.

Dumping jobs

Occasionally it may be necessary to view the data that is sent by the host computer and analyze it. **The Dump menu options are intended for diagnostics, not everyday operation.** The following options are provided:

View Dump… — allows you to view the data that is sent by the CAR host computer to the scanner in a CAR download. See the next section entitled "Viewing CAR data" for procedures.

No Dump — when selected, does not allow the capture of data for saving or review. This is the normal operating mode.

Dump Job — captures only data between Start/End transmission characters.

Dump All — captures all data received by the scanner CAR port.

NOTE: If you use the Dump Job option or Dump All option to open the View Dump dialog box, and the dialog box is subsequently closed, you must reopen the dialog box by selecting the View Dump menu option.

Viewing CAR data

The CAR menu allows you to view the data that is sent by the host computer to the scanner in a CAR download.

1. Select **Download>View Dump…** The View Dump dialog box will be displayed with the CAR data:
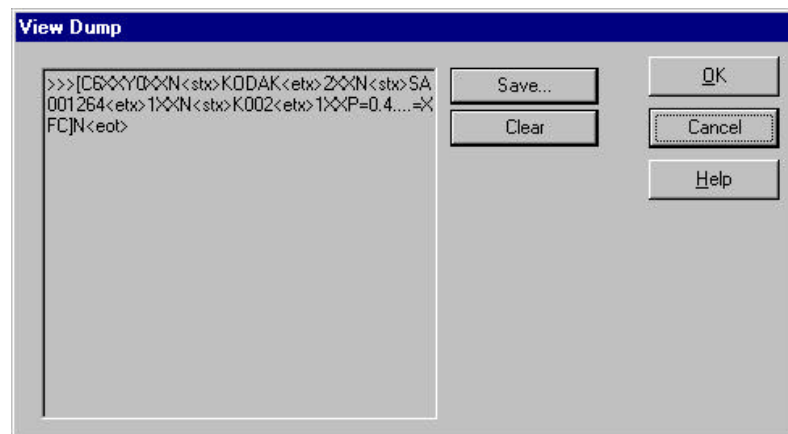
NOTE: Unprintable ASCII characters, such as Start of Text, are shown as <STX> in the View Dump dialog box.

2. Select **Save…** if you want to save the file to send to Kodak or your integrator for analysis or select **Clear** to clear the screen and perform another download.

3. Click **OK**.

CAR registers

The Registers menu allows you to save or view what is currently loaded in the registers, or load a previously saved file to the registers. You can also start a batch download using the Registers function.

```
CAR  Setup  He
  Setup        ▶
  Ready!
  Download     ▶
  Registers    ▶    Save...
  Monitor...        Load...
                    Start Batch
                    View...
```
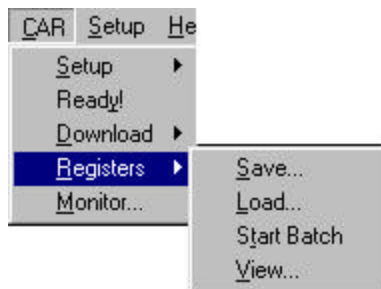
Saving and loading registers

The Save and Load functions are primarily used for diagnostic purposes.

To save the current contents of the registers:

1. Select **CAR>Registers>Save**. The Save Registers dialog box will be displayed:

```
Save Registers                                    ? X
Save in:  My Documents           ▼  🗁 🧾 📁 ▦ ▦
  📁 My Pictures




File name:  [                    ]        Save
Save as type:  TXT Files (*.txt)      ▼   Cancel
```
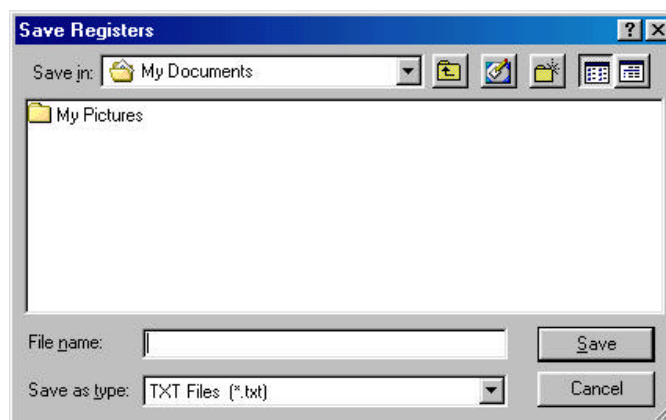
2. Select the folder where you want to save the register information.

3. Enter a new file name.

4. Select a file type.

5. Click **Save**.

To load the registers with a previously saved file:

1. Select **CAR>Registers>Load**. The Load Register File dialog box will be displayed:
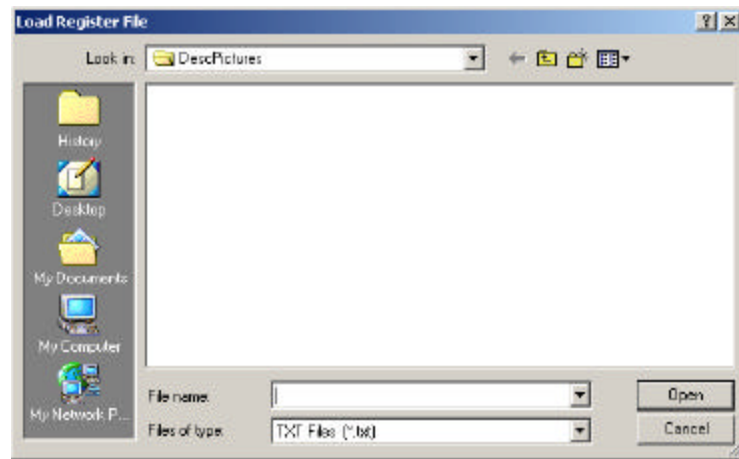
2. Locate and select the desired file.

3. Click **Open**.

Starting a Batch download and using View registers

During a batch download, commands, text messages, and image addresses are loaded in the scanner memory registers. A message appears on the scanner PC when a batch download is received. You can execute the registers right away or later; and you can execute the registers one at a time or let the scanner automatically execute the entire download.

You can load the registers from the CAR system or from a previously saved download file. (Loading from a file is used primarily for diagnostics.)

To execute the registers from the scanner you can use the **CAR>Registers>Start Batch** function, or use the **CAR>Registers> View** function. Use the View function if you want to verify that the download has been received and is ready to be executed or if you want to change the order in which the download is executed.

Using the View Registers function

The CAR Registers dialog box allows you to change the order in which a download is executed. Following is a summary of the functions available on the CAR Registers dialog box.
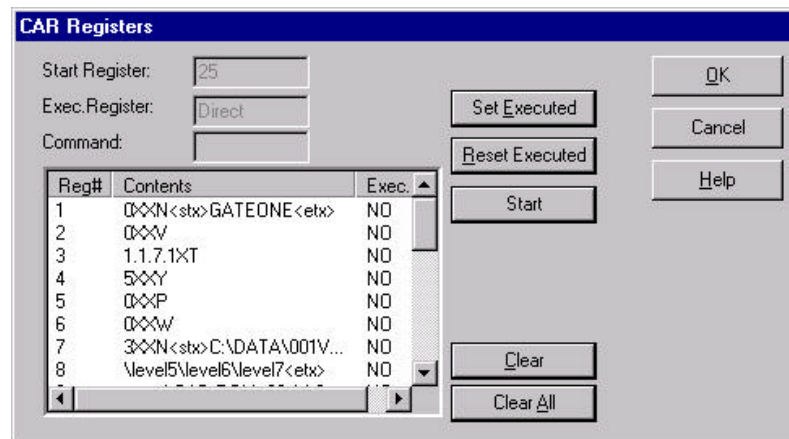
Start Register — displays the next register to be executed.

Exec. Register — displays the register currently being executed.

Command — displays the command currently being executed.

Set Executed — as each register is executed, YES will be posted in the Executed column of the list box. If you want to re-execute a register, double click on the register you want to re-execute and click **Set Executed**. This will change the YES to NO and allow the register to be re-executed.

Reset Executed — if a register has not been executed, NO will be posted in the Executed column of the list box. If you want to execute a register that has been previously executed, double-click on the register you want to execute and click **Reset Executed**. This will change the YES to NO and allow the register to be executed.

Start — allows you to start execution of the registers.

Clear — will clear the highlighted register.

Clear All — will clear all the registers displayed in the list box.

NOTE: Multiple registers can be selected when using the Set Executed, Reset Executed and the Clear options.

Changing the starting register:

1. Select **CAR>Registers>View**. The CAR Registers dialog box will be displayed:
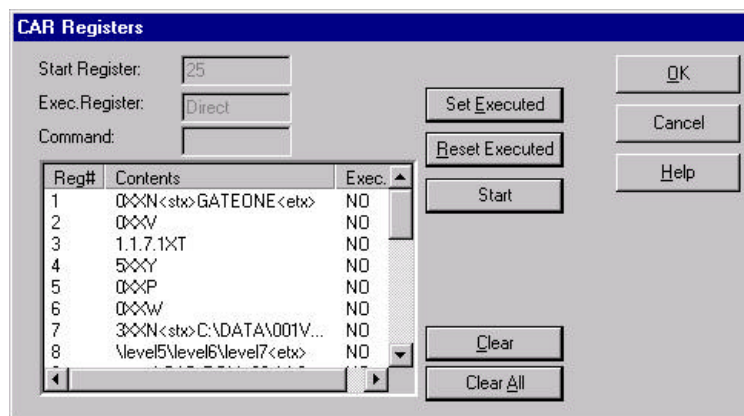
2. Highlight the register from the list box where you want to start at and double-click the mouse button.

3. Click **Start**.

4. Click **OK** to close the CAR Registers dialog box.

CAR monitor

The CAR Monitor option allows you to stop and resume execution of CAR commands to perform image processing functions or use the menu functions. When you select **CAR>Monitor** the CAR Monitor dialog box is displayed:
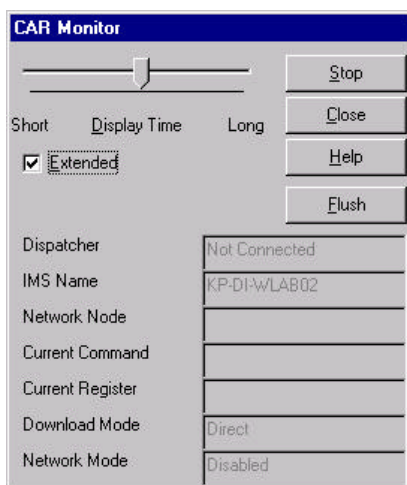
Display Time slider bar — allows you to slow down or speed up CAR command transmission.

Stop/Resume — when selected, will complete the current CAR command, display the image and stop. Select **Resume** to continue.

Close — closes the CAR Monitor dialog box.

Extended — when enabled, will expand the CAR Monitor dialog box.

6   Troubleshooting

Software advisory messages

This chapter contains information on software-advisory messages that may occasionally arise while using the *Kodak* i7300 Scanner Application Software. These codes are usually informational messages and often require no action.

Hardware-related messages can be found in the User's Guide for the *Kodak* i7300 Scanner, A-61404.

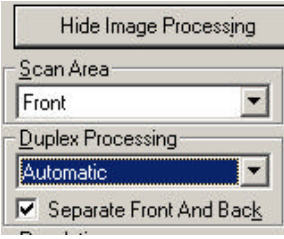| Code	Error message	Corrective Action
A000	Power is on. Machine is ready	Informational message.
A002	Threading film	Informational message.
A003	Threading complete	Informational message.
A004	Searching	Informational message.
A005	Searching complete	Informational message.
A006	Refiling	Informational message.
A007	Refiling complete	Informational message.
A010	Search is needed	Enter an image address search request.
A011	Input problem	Re-enter the information.
A012	Number out of range	Enter an appropriate number.
A014	Image address is too large	Enter an appropriate image address.
A016	Image not found	Try again. Check the film reel to be sure the film is loaded correctly into the magazine.
A018	End of chapter	Informational message.
A019	End of film	Informational message.
A022	Film is not present	Insert the roll of film you want to request an image from into the film nest.
A024	Too few decimals	Enter an image address number with the appropriate (more) amount of decimals.
A025	Too many decimals	Enter an image address number with the appropriate amount (fewer) of decimals.
A036	Refile required	Select **Refile Film** to refile the film.

Problem solving

Use the chart below as a guide to check possible solutions to problems you may encounter when using the Scanner Application Software.

Problem	Possible Solution	
Large batch-related messages/problems		
Image not found	This is a normal message when running a large batch. *Image not found* indicates that the batch is finished.	
Image Overwrite *or* **Scan Failure**	If either of these messages is displayed while running a large batch, it may be necessary to manually review your saved images and restart the batch to be sure there are no missing images. • Click **OK** on the message.	
Annotation-related messages/problems		
Annotation that was entered using the Annotation toolbox is not printing.		Be sure that the Scan Area is set to either **Front** or **Back**. If **Primary** is selected, the annotation will not be printed.

7 Network Operations

One or more scanners can be networked with *Kodak* Image Server Software.

Image Server Software is a background process software application, which runs on a separate PC. It provides an integral component of a larger system of Kodak and integrator-supplied micrographics devices and applications that are connected together by a local area network.

Networking enables the scanner to send scanned images to Image Server Software. Images can be sent manually from the scanner to the Image Server Software or sent via a CAR application. Images can then be printed, faxed or emailed individually or in a folder via the Image Server Software.

The purpose of this chapter is to provide procedures for sending images directly to the Image Server Software (or *Kodak Imagelink* IMS+ Node Module). Other micrographics devices, such as the *Kodak Imagelink* Digital Workstation can also be networked with the Image Server Software. For detailed instructions on how to use the *Imagelink* Digital Workstation, the scanner with CAR and the Image Server Software, refer to the following manuals.

- Operator's Manual for the *Kodak Imagelink* Digital Workstation/ Digital Workstation 2000, A-62037B.

- Chapter 5*, Setting Up CAR Applications* (found in this manual).

- *Kodak* Image Server Software User's Guide, A-61148.

Setting up a CAR network connection

Setting up a CAR network connection is only applicable if you have *Kodak* Image Server Software. For detailed instructions on how to use the *Kodak* Image Server Software, see publication A-61148, *User's Guide for **Kodak** Image Server Software*.

You must connect to a dispatcher using the **Network** option in CAR Setup before sending images to the Image Server Software.

To connect to a dispatcher:

1. Select **Navigate>Image Server>Setup…** from the main screen. The Image Server dialog box will be displayed.
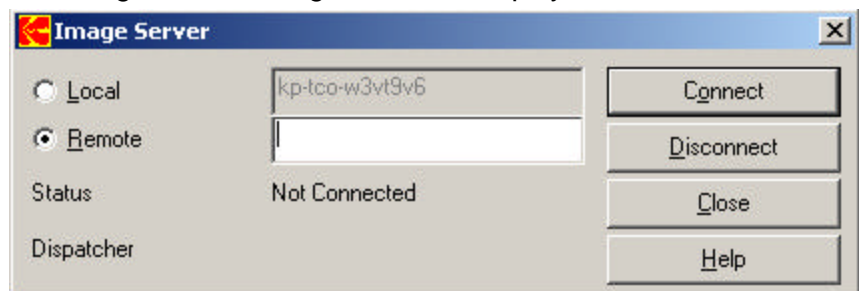
The Image Server dialog box provides the ability to connect to a dispatcher installed on the local or remote PC. The remote PC name can be specified. The local PC name is provided automatically. The Status field will indicate whether a dispatcher is connected or disconnected. If the Scanner Application Software was connected to a dispatcher at shutdown, the software will automatically reconnect upon start-up. If the connection attempt is unsuccessful (e.g., the PC installed with the dispatcher is not powered up), an error message will be displayed.

2.   Select **Local** if the dispatcher is installed on the same PC as the Application Software. Select **Remote** if the dispatcher is on a different PC.

3.   Select **Connect**.

To disconnect a dispatcher:

1.   Select **Navigate>Image Server>Setup…** from the main screen.

2.   Select **Disconnect**.

3.   Select **Close**.

To change to a different dispatcher:

1.   Enter the dispatcher name in the active field on the Image Server dialog box.

2.   Select **Local** if the dispatcher is installed on the same PC as the Application Software. Select **Remote** if the dispatcher is on a different PC.

3.   Select **Connect**.

Connecting to a VNN

The Image Server Software contains from 1 to 4 virtual network nodes (VNN). Each VNN operates discretely from the others. The scanner must be connected to a VNN to utilize the features of the Image Server Software. The Image Server option from the Navigate menu provides the capability to connect the scanner to a VNN.

NOTE: The Image Server option is available only if the scanner is connected to the Image Server Dispatcher.

Options on the Image Server menu (Setup, Connect, Print, Print Chapter, Print Existing Folder, etc.) will be available after an image is retrieved and displayed by the scanner or upon connection if you connect as a storage device that already contains images. The available options depend on the output device that you selected to connect as.
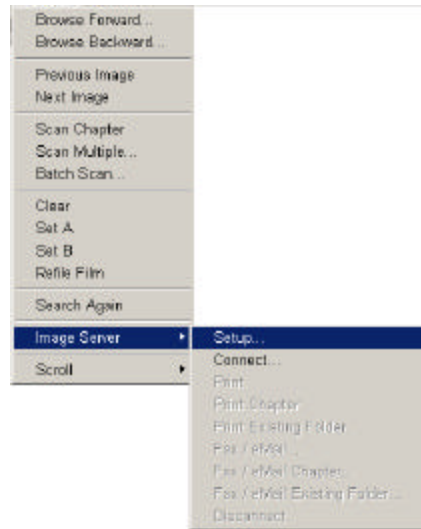
To connect to a VNN:

1.   Select **Navigate>Image Server>Connect…** The Connect To Image Server dialog box will be displayed.
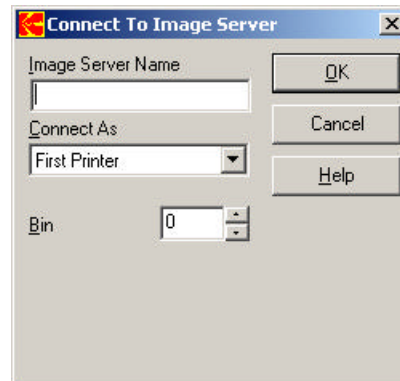
NOTE: If First Printer, Second Printer or Fax/eMail is selected from the Connect As drop–down box, the Folder Name and Document Name fields are not applicable and will not be displayed.

2. Enter the name of the VNN you want to connect to. This name must be entered exactly as it is defined on the Image Server Software, including upper and lower case letters.

   NOTE: If an incorrect node name is entered, the message **Node not found** will be displayed when **OK** is selected.

3. Select the type of output device from the Connect As drop-down box. Options are:

   - **First Printer** — images will be sent to the printer defined as Printer 1 on the VNN you are connected to.

   - **Second Printer** — images will be sent to the printer defined as Printer 2 on the VNN you are connected to.

   - **Storage Printer** — allows you to store images as documents in folders on the VNN you are connected to, so they can be printed later as a group.

   - **Fax/eMail** — allows you to immediately fax or email an image.

   - **Storage Fax/eMail** — allows you to store images as documents in folders on the VNN you are connected to, so they can be faxed or emailed later as a group.

4. ***For Storage Printer or Storage Fax/eMail only***. Enter a Folder Name and Document Name. You must make an entry in the Folder Name field, however, the Document Name is optional. Choose a name that is meaningful to you, thereby making it easier for you to locate these documents quickly in the future. Each field can contain up to 8 alphanumeric characters and spaces. If you do not make an entry in the Document Name field, the system will assign one — *Dxxxxxxx,* where the *x's* are sequential numbers, e.g. D0000171.

   For more information, see the next section entitled "Storing images in a virtual network node" in this chapter.

5. Click **OK** to start the connection to the specified VNN.

Disconnecting from a VNN

When you are connected to a VNN, you can disconnect anytime by selecting **Navigate>Image Server>Disconnect**.

Storing images in a VNN

A VNN within the Image Server Software can store scanned microfilm images as documents in folders for later printing, faxing or emailing.

A **document** consists of one or more scanned images from a scanner, held in a folder on a VNN. Document names may be assigned when connecting to a VNN. The assignment of names to documents is optional, but if used, each document name should be unique. If a document is not assigned a name, the system will assign one — Dxxxxxxxx, where the x's are sequential numbers, e.g., D00000171. Documents allow multiple related images, retrieved from one or more film rolls, to be printed, faxed or emailed at one time as a group.

A **folder** consists of one or more documents. Each folder must have a unique name assigned to it when connecting to a VNN. A specified folder and document remains as the output destination until you disconnect from the VNN, connect as a different device, or specify a different folder and/or document. Folders allow multiple documents to be printed, faxed or emailed at one time as a group.

NOTE: A VNN can receive images simultaneously from more than one scanner.

The following dialog box illustrates how images are stored as documents in folders within the Image Server Software.
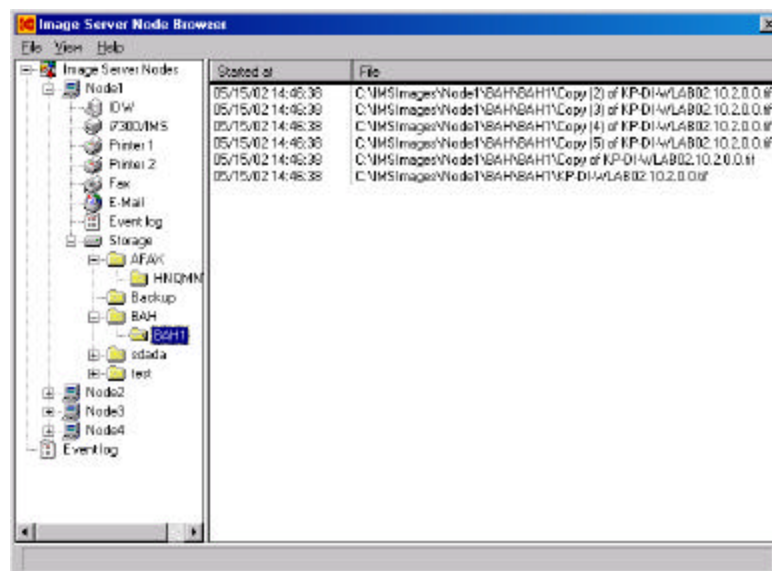
Printing individual images

To print an individual image immediately:

1. If not already connected, connect to a VNN and First Printer or Second Printer via the **Navigate>Image Server>Connect…** menu option.

2. If desired, select the bin to output your images to. Your printer bin must be enabled.

3. Retrieve the desired image using the scanner.

4. Select **Navigate>Image Server>Print** from the menu.

5. Repeat Steps 2 and 3 for each individual image to be printed. (Images may be retrieved from various rolls of film.)

6. Optionally disconnect when finished via **Navigate>Image Server> Disconnect.**

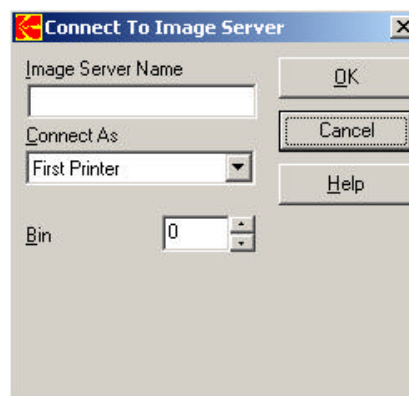To print a sequence of images immediately, from the same roll of film:

1. If not already connected, connect to a VNN and First Printer or Second Printer via the **Navigate>Image Server>Connect…** menu option.

2. If desired, select the bin to output your images to. Your printer bin must be enabled.

3. Retrieve the first image of the sequence using the scanner.

4. Select **Navigate>Image Server>Print Chapter** from the menu.

- If you are using Level 1 film, the requested image and every subsequent image to the end of the film will be printed.

- If you are using Level 2 or Level 3 film and the requested image is a chapter level or page level image, the requested image and every subsequent image to the end of the chapter will be printed.

- If you are using Level 3 film and the requested image is a book level image, only the requested image will be printed.

NOTE: To stop at a specific image, press the Clear key on the keypad and click **Abort** on the displayed message box after the image is displayed.

5. Optionally disconnect when finished via **Navigate>Image Server> Disconnect.**

Printing foldered images

To organize multiple individual images as a document in a folder for later printing as a folder:

1. If not already connected, connect to a VNN and Storage Printer via the **Navigate>Image Server>Connect…** menu option.

2. Specify a folder name and an optional document name.

3. Retrieve the first image using the scanner.

4. Select **Navigate>Image Server>Print** from the menu.

5. Repeat Steps 3 and 4 for each individual image to be added to the document.

6. Optionally disconnect when finished via **Navigate>Image Server> Disconnect,** or if desired, see "To print foldered images" later in this section.

To organize a sequence of images from the same roll of film as a document in a folder for later printing as a folder:

1. If not already connected, connect to a network node and Storage Printer via the **Navigate>Image Server>Connect…** menu option.

2. Specify a folder name and an optional document name.

3. Retrieve the first image of the sequence using the scanner.

4. Select **Navigate>Image Server>Print Chapter** from the menu.

   - If you are using Level 1 film, the requested image and every subsequent image to the end of the film will be printed.

   - If you are using Level 2 or Level 3 film and the requested image is a chapter level or page level image, the requested image and every subsequent image to the end of the chapter will be printed.

   - If you are using Level 3 film and the requested image is a book level image, only the requested image will be printed.

   NOTE: To stop at a specific image, press the Clear key on the keypad and click **Abort** on the displayed message box after the image is displayed.

6. Optionally disconnect when finished via **Navigate>Image Server> Disconnect,** or if desired, see "To print foldered images" later in this section.

NOTE: Individual images and/or sequences of images may be retrieved from various rolls of film and foldered together.

To add another document to an existing folder:

1. If not already connected, connect to the desired VNN and storage printer via the **Navigate>Image Server>Connect…** menu option.

2. Specify the existing folder name and a new document name.

   NOTE: If you are already connected to the VNN and folder, enter a new document name on the Connect To Image Server dialog box.

3. Continue with Step 3 from above for individual images or a sequence of images.

To print foldered images:

NOTE: If you are already connected to the desired VNN and folder, skip Steps 1 and 2.

1. Connect to the desired VNN and storage printer via the **Navigate>Image Server>Connect…** menu option.

2. Specify the existing folder name.

3. Select **Navigate>Image Server>Print Existing Folder** from the menu. (All documents within the folder will be printed.)

4. Repeat Steps 2 and 3 for each folder to be printed.

5. Optionally disconnect when finished via **Navigate>Image Server> Disconnect**.

The Fax/eMail dialog box

The Image Server Software provides fax capability and email capability.

When you are connected in the host software as Fax/eMail, the Fax/eMail dialog box will be displayed after an image is retrieved and displayed.

When you are connected as Storage Fax/eMail, the Fax/eMail dialog box will be displayed when you request faxing or emailing of a folder.

When entering information in the Fax/eMail dialog box, follow these guidelines.

NOTE: An entry in each field is not required, unless otherwise noted.

• A maximum of 20 characters is allowed in each field, except the Fax Number/Return eMail (sender) and the Fax Number/eMail (recipient fields). These two fields allow 50 characters.

• Spaces are not valid in the Fax Number/eMail and Fax Number/Return eMail fields.

• The following table shows the characters that **may** be entered in the Fax Number/Return eMail and Fax Number/eMail fields. The only character applicable to email is the @ character. The specific characters that can be used for fax are dependent on the configuration of WinFax PRO within Image Server Software. For more information see your System Administrator.

Character	Description	Purpose
0-9	numbers	Fax number
;	semicolon	Wait for up to 15 seconds for a second dial tone
P	uppercase P	Pulse dialing (first position only)
T	uppercase T	Touch-tone dialing (first position only)
#	number sign	Notifies the international operator that the fax number being entered is complete
*	asterisk	Fax number
@	at sign	Indicates an email address

To include a delay for the dial tone in the Fax Number/eMail field (as when dialing 9 for an outside line), use one or more commas (,) as shown in the table below. Each comma causes a 1.5 second delay.

Number of commas =	Delay time (seconds)
1	1.5
2	3.0
3	4.5
4	6.0
5	7.5
6	9.0
7	10.5
8	12.0
9	13.5
10	15.0

- Both uppercase and lowercase characters are allowed in all fields except Fax Number/eMail, where uppercase P and T are required if used.

- Hyphens (-) and parenthesis (()) are optional in the Fax Number/ eMail and Fax Number/Return eMail fields. These symbols are ignored by the scanner and the Image Server Software.

- To obtain an outside line, in some cases you may have to prefix the fax number with 9 or some other number. For long distance numbers, prefix the fax number with 1. For the numeric prefixes to use with international fax numbers refer to your local area phone book.

- Examples of valid fax number formats that do not include a dial tone delay:

  1-408-555-1549
  1 (408)555-1549
  14085551549

- Examples of valid fax number formats that include a dial tone delay:

  9,1-408-555-1549
  9,,1 (408)555-1549
  9;14085551549

- Required fields: Recipient Fax Number/eMail address.

- Transmission settings are applicable only to faxes.

  Standard Resolution: 200 x 100 dots per inch.

  Fine Resolution: 200 x 200 dots per inch. Fine Resolution requires twice as much transmission time and disk space as Standard Resolution. However, the increased legibility of an image that contains very fine detail may justify the use of Fine Resolution.

  NOTE: The quality of the actual output also depends on the imaging capabilities of the output fax machine.

- Enable **Fax Header Page** if you want the header page printed along with your fax. The default is no Fax Header Page.

- The fax will be delivered when you send it if you do not enable the Time option and enter a specific time.

- The fax will be delivered when you send it if you do not enable the Date option and enter a specific date.

- If the date is prior to the current date (even if it is set to a future year), the fax will be sent immediately.

Faxing or emailing individual images

To fax or email an individual image immediately:

1. If not already connected, connect to a VNN and Fax/eMail via the **Navigate>Image Server>Connect…** menu option.

2. Retrieve the desired image using the scanner.

3. Select **Navigate>Image Server>Fax/eMail** from the menu.

4. Fill the necessary information in the Fax/eMail dialog box. (See the section entitled "The Fax/eMail dialog box" in this chapter.)

5. Click **OK** when finished.

6. Repeat Steps 2 through 5 for each individual image to be faxed or emailed. (Images may be retrieved from various rolls of film.)

7. Optionally disconnect when finished via **Navigate>Image Server> Disconnect.**

To fax or email a sequence of images immediately, from the same roll of film:

1. If not already connected, connect to a VNN and Fax/eMail via the **Navigate>Image Server>Connect…** menu option.

2. Retrieve the first image of the sequence using the scanner.

3. Select **Navigate>Image Server>Fax/eMail Chapter** from the menu.

   - If you are using Level 1 film, the requested image and every subsequent image to the end of the film will be printed.

   - If you are using Level 2 or Level 3 film and the requested image is a chapter level or page level image, the requested image and every subsequent image to the end of the chapter will be printed.

   - If you are using Level 3 film and the requested image is a book level image, only the requested image will be printed.

   NOTE: To stop at a specific image, press the Clear key on the keypad and click **Abort** on the displayed message box after the image is displayed.

4. Fill the necessary information in the Fax/eMail dialog box. (See the section entitled "The Fax/eMail dialog box" in this chapter.)

5. Click **OK** when finished.

6. Optionally disconnect when finished via **Navigate>Image Server> Disconnect.**

Faxing or emailing foldered images

To organize multiple individual images as a document in a folder, then fax or email the folder:

1. If not already connected, connect to a VNN and Storage Fax/eMail via the **Navigate>Image Server>Connect…** menu option.

2. Specify a folder name and an optional document name.

3. Retrieve the first image using the scanner.

4. Select **Navigate>Image Server>Fax/eMail** from the menu.

5. Repeat Steps 3 and 4 for each individual image to be added to the document.

6. Select **Navigate>Image Server>Fax/eMail Existing Folder** from the menu.

7. Fill in the necessary information in the Fax/eMail dialog box. (See the section entitled "The Fax eMail dialog box" in this chapter.)

8. Click **OK** when finished.

9. Optionally disconnect when finished via **Navigate>Image Server> Disconnect**.

To organize a sequence of images from the same roll of film as a document in a folder, then fax or email the folder:

1. If not already connected, connect to a VNN and Storage Fax/eMail via the **Navigate>Image Server>Connect…** menu option.

2. Specify a folder name and an optional document name.

3. Retrieve the first image of the sequence using the scanner.

4. Select **Navigate>Image Server>Fax/eMail Chapte**r from the menu.

   - If you are using Level 1 film, the requested image and every subsequent image to the end of the film will be printed.

   - If you are using Level 2 or Level 3 film and the requested image is a chapter level or page level image, the requested image and every subsequent image to the end of the chapter will be printed.

   - If you are using Level 3 film and the requested image is a book level image, only the requested image will be printed.

   NOTE: To stop at a specific image, press the Clear key on the keypad and click **Abort** on the displayed message box after the image is displayed.

5. Select **Navigate>Image Server>Fax/eMail Existing Folder** from the menu.

6. Fill in the necessary information in the Fax/eMail dialog box. (See the section entitled "The Fax eMail dialog box" in this chapter.)

7. Click **OK** when finished.

8. Optionally disconnect when finished via **Navigate>Image Server> Disconnect**.

NOTE: Individual images and/or sequences of images may be retrieved from various rolls of film and foldered together.

To add another document to an existing folder, then fax or email the document:

1. If not already connected, connect to the desired VNN and storage printer via the **Navigate>Image Server>Connect…** menu option.

2. Specify the existing folder name and a new document name.

   NOTE: If you are already connected to the VNN and folder, just enter a new document name on the Connect To Image Server dialog box.

3. Continue with Step 3 from above for individual images or a sequence of images.

Appendix A   Microfilm Information

Introduction

This appendix contains information that will be helpful when operating the *Kodak* i7300 Scanner or *Kodak* Intelligent Microimage Scanner. Some of the information is general, while some of it supports specific operating procedures.

This appendix contains information on:

- General microfilming guidelines
- Microfilm specifications
- Image mark sizes
- Loading film
- Film and reel checks
- Film leader, trailer, splicing, curl, twist, and magazine condition
- Microfilm storage

Microfilming guidelines

The following description provides you with a brief overview of some basic microfilming techniques and principles. The descriptions are aimed at the novice operator; however, even if you are a more experienced operator you may find it helpful to review this information.

Microfilm specifications

The microfilm used in the scanner must meet the following specifications:

Width — 16 mm, unperforated.

Types — silver microfilms can be used to produce originals or duplicate reels. However, duplicates from silver originals are more commonly made using diazo microfilm (which provides direct duplicates of the original), or vesicular/thermal microfilm (which provides reverse polarity duplicates). Any microfilm selected must have a clear base. Tinted-base microfilms cannot be used with the scanner. However, if tinted-base originals are duplicated on clear base microfilms, the duplicate copies can be used.

Film Leader — M-type film leader must be clear; black leader cannot be used.

Thickness — 2.5 to 5.0 mils.

NOTE: Thermal films less than 4 mils thick can stretch during processing and become narrower than 16 mm, which can result in unreliable performance.
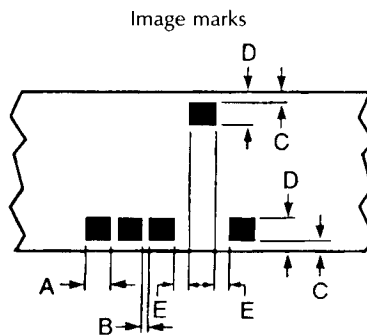
Image mark sizes

The scanner can accept a set of three customer-specified image mark sizes in the overall range of 0.024 to 0.310 inches (0.61 to 7.87 mm). Image mark sizes can be specified in the machine setup.

		Small mark	Medium mark	Large mark
Image Length* A	Min	0.024 in (.61 mm)	0.085 in (2.16 mm)	0.165 in (4.19 mm)
	Nominal	0.027 in (0.69 mm)	0.090 in (2.29 mm)	0.170 in (4.32 mm)
	Max	0.050 in (1.27 mm)	0.122 in (3.10 mm)	0.3.10 in (7.87 mm)
Intermark spacing	B Min	0.024 in (0.61 mm)**		
Mark from edge of channel	C Max	0.045 in (1.14 mm)		
Mark from edge of channel	D Min	0.074 in (1.88 mm)		
Alternate channel spacing	E Min	0.048 in (1.22 mm)		

*   In multi-level search programs, the best final stopping position of documents results if mark lengths are the nominal size.

**   For silver film with maximum Dmin 0.35 and minimum Dmax 0.90, intermark spacing (B) is 0.019 in. (0.47 mm) min.

Image marks

NOTE: The minimum large image mark size must exceed the maximum medium image mark size by at least 0.038 in. (0.97 mm). The minimum medium image mark size must exceed the maximum small image mark size by at least 0.035 in. (0.89 mm).

Loading film

The scanner is designed to offer optimum performance with ANSI magazines (*Kodak Ektamate* Magazines, or equivalent, and *Kodak Ektamate* A Magazines). In addition, the scanner accepts M-type magazines and enclosed ANSI magazines. Enclosed ANSI magazines may experience reduced threading performance when compared with "open" magazines such as the *Ektamate* or *Ektamate* A magazine.

NOTE: Dual M- and Dual K-format film magazines cannot be used with the scanner.

The different magazine loading and usage conditions for the various magazines are detailed in the following section.

Standard ANSI magazines

To insert the reel into the magazine:

- Orient the magazine with the slot on top and the reel opening on the left.

- Spread the top and bottom of the magazine slightly apart.

- Snap in the reel with the film feeding counterclockwise off the top of the reel.

Note the proper orientation of film and magazine in the illustration below.

Ektamate and ANSI Magazines
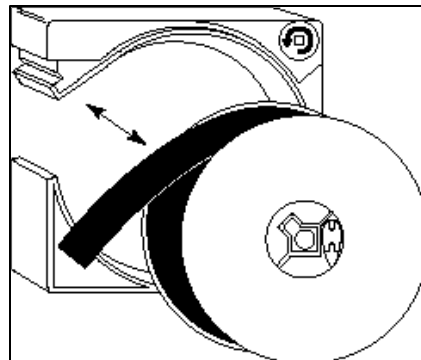
IMPORTANT: *Microfilm rolls should not have any tears or holes on any part of the film. The first 72 inches (182 cm) of the leading end of the film should be free of wrinkles and of image marks or Image Management Code. Image Management Code should not begin after 120 inches (304 cm) of film.*

**Enclosed ANSI
magazines**

IMPORTANT: *Enclosed ANSI magazines **must** be used with solid
flange reels designed specifically to fit with these
magazines. Standard ANSI film reels designed for open
ANSI magazines may cause film transport performance
problems when used in an enclosed magazine.*

To insert the reel into the magazine:

- Locate the release catch on the magazine (see the illustration) and
release it by pressing with a small pointed object (such as a ball
point pen).

Enclosed ANSI Magazine
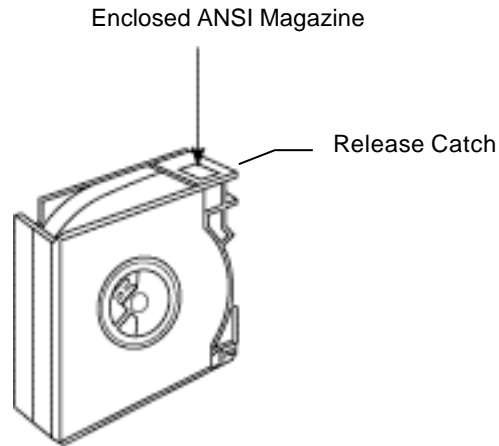
Release Catch

- Place the reel into the left half of the magazine with the film feeding
clockwise off the top of the reel.

- Join the two parts of the magazine by aligning the four edges and
snapping the release catch and edges securely into place to form an
enclosed magazine.

Left
Half

Right
Half
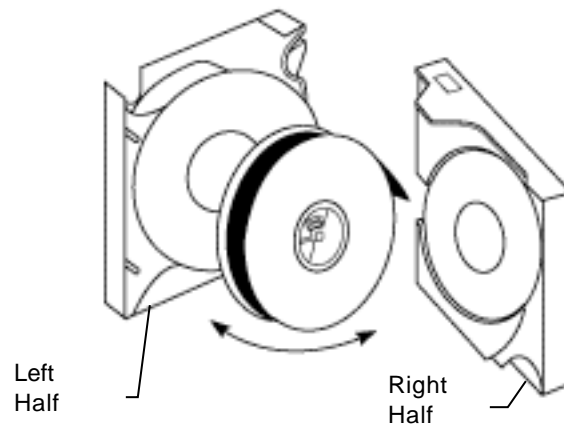
M-type magazines

To insert the reel into the magazine:

- Orient the magazine as shown in the illustration. Remove the two retainer screws and set them aside. Separate the two parts of the magazine.
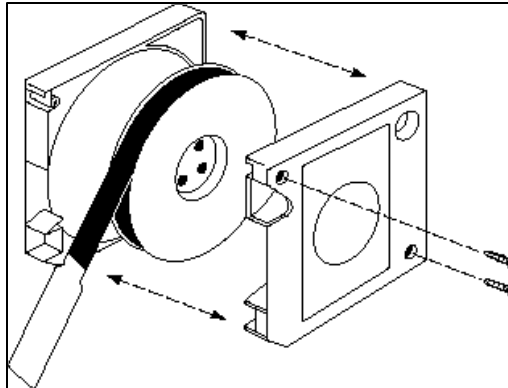

- Place the film into the magazine with the film feeding counterclockwise off the reel.

- Place the two parts of the magazine together and replace the two screws.

CAUTION: Core fillers should not be used and existing fillers should be removed from reels. Damage could occur to your film and/or the film controller if core fillers are used.

M-Film and reel checks

Reels used with the scanner should be *Kodak* Solid Flange Reels (or equivalent).

Reel Flange

1/4 Inch Maximum
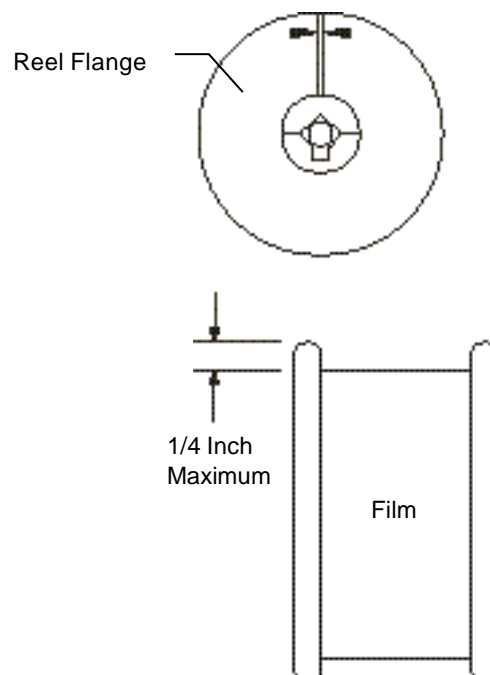
Film

The amount of film on the reel should not go past the arrows indicated on the reel; there should be at least a ¼-inch distance from the edge of the reel to the film.

For correct feeding of film on and off the reel without binding or damaging the film:

- Pass the film in and out between the flanges (sides) of the reel.
- If the film is pinched by the flanges at any point, have the film rewound onto a new reel.

Make sure that the reel is not overfilled, as follows:

- If you are using a *Kodak* Solid Flange Reel, make sure that the film (when fully rewound) is not above the arrows on the reel's side.
- If you are using an equivalent reel, check that the film (when fully rewound) stops at least $\frac{1}{4}$ in. from the top edges of the reel flanges.

Film leader — ANSI magazines

When using an ANSI magazine, the leader end of the film should meet the following criteria:

Acceptable
Leading End Cut
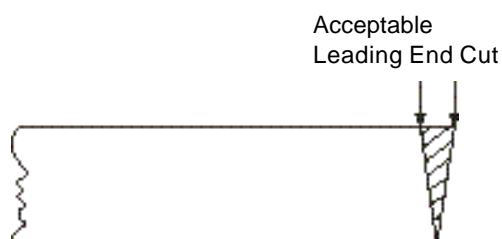
- The leader end should be cut as square as possible (see illustration).
- For reliable threading, the first 36 in. (915 mm) should be free of wrinkles, splices, tears, or holes. The first 72 in. (1830 mm) should be free of image marks or Image Management Code.

If the film is less than 2.5 mils thick, it should have a leader (preferably 5-mil polyester) that is at least 36 in. (915 mm) long.
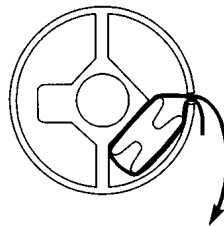
Film leader — M-type magazine

When using an M-type magazine, a 31.5 in. (800 mm) leader must be affixed to the film. The following criteria should also be met:
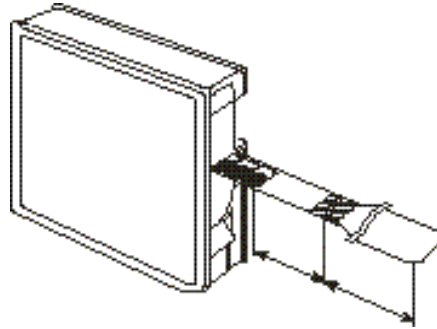
- The leader must be square to the attached film.
- The first film images should not be closer than 16 in. (400 mm) from the leader-film splice location.
- The leader must be clean and in good condition (free of creases, burrs, bends, etc.).
- Only *transparent* leader tapes can be used.

Film trailer — ANSI magazines

When using an ANSI magazine, use a trailer end holder to fix the film end to the supply reel. The following criteria should also be met.

- Be sure to wind the film onto the supply reel in the correct direction.
- The film trailer must contain no images and must be at least 18 in. (450 mm) long as measured from the supply reel to the last image on the film.

Film trailer — M-type magazine

When using an M-type magazine, use a trail end holder to fix the film end to the supply reel. The following criteria should also be met.
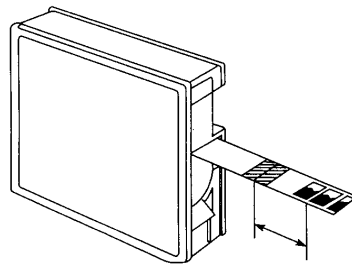
- Be sure to wind the film onto the supply reel in the correct direction.

- The film trailer must be at least 31.5 in. (800 mm) long.

- There must be at least 12 in. (300 mm) of unexposed film between the last image and the trailer end splice connection.
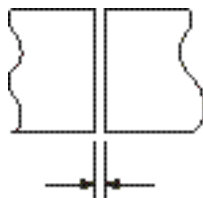
Film splicing

Use the following guidelines when splicing film:

- For M-type magazines, the section connecting the leader tape and film should be at least 0.826 in. (21 mm) long.
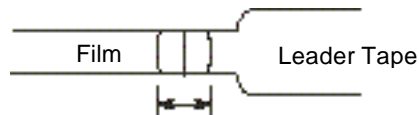
Film   Leader Tape
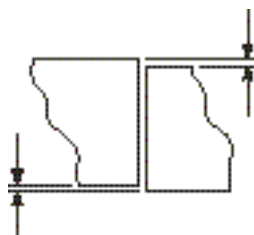
0.826 in (21 mm) or longer

- The gap between the leader tape and film should be no more than 0.009 in. (0.25 mm).
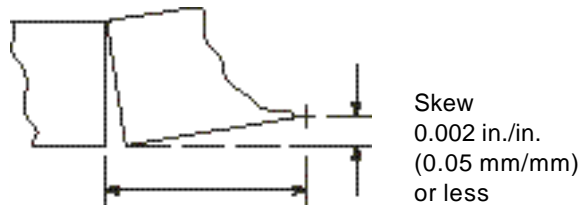
Cap
0.009 in. (0.25 mm) or less

- The leader tape and the film should be aligned closely. The offset should be no more than 0.005 in. (0.13 mm).
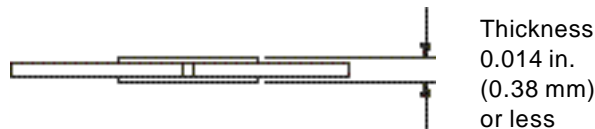
Offset 0.005 in.
(0.13 mm)
or less

- Make sure there is minimal skew (a slanted cut leaving an angled gap) between the leader tape and film. The skew should be no more than 0.002 in./in. (0.05 mm/mm).

Skew
0.002 in./in.
(0.05 mm/mm)
or less

- The thickness of the connecting section should be no more than 0.014 (0.38 mm).

Thickness
0.014 in.
(0.38 mm)
or less

Film curl

For most film types and operating conditions, a certain amount of film curl can exist without adversely affecting the performance of the scanner (see the next section entitled, "Microfilm curl check"). Under certain conditions, however, curled film ends may result in degraded threading performance. Specific conditions that may result in degraded performance with curled films include:

- partial reels (reels containing less than a full amount of film)
- operating environments with low relative humidity
- enclosed ANSI magazines

In order to maintain reliable film threading under these conditions or others where curled films may cause degraded performance, certain steps can be taken:

- Straighten the film end (leader) by forcing it over a straight edge or surface to remove the curl and/or twist from the first 6 to 8 inches. (150 to 200 mm). Care must be taken not to crease or damage the film end during straightening.
- Attach a straight film leader in good condition that is approximately 36 in. (915 mm) long. (A leader of 5-mil thick polyester film will obtain the best results.)

Microfilm curl check

The microfilm can have a certain amount of curl without affecting operation. To check the curl of your microfilm:

1. Place the diagram upright with the outline of the reel at the top of the page.
2. Place your reel over the outline and let the film hang down.
3. Move your reel until the film's curl matches one of the arcs in the diagram.

The film curl is acceptable if it falls within the shaded area (see the next page).

(Actual size)

Curl should be less than 70 when toward roll; less than 40 when away from roll

90

80

70   60

50

50

40

30

Away ←———→ Toward

Film Curl ¾ M Cartridge

Curl should be less
than 70 when toward
roll; less than 40
when away from roll

90

80

70   60

50

50

40

30

Away   Toward
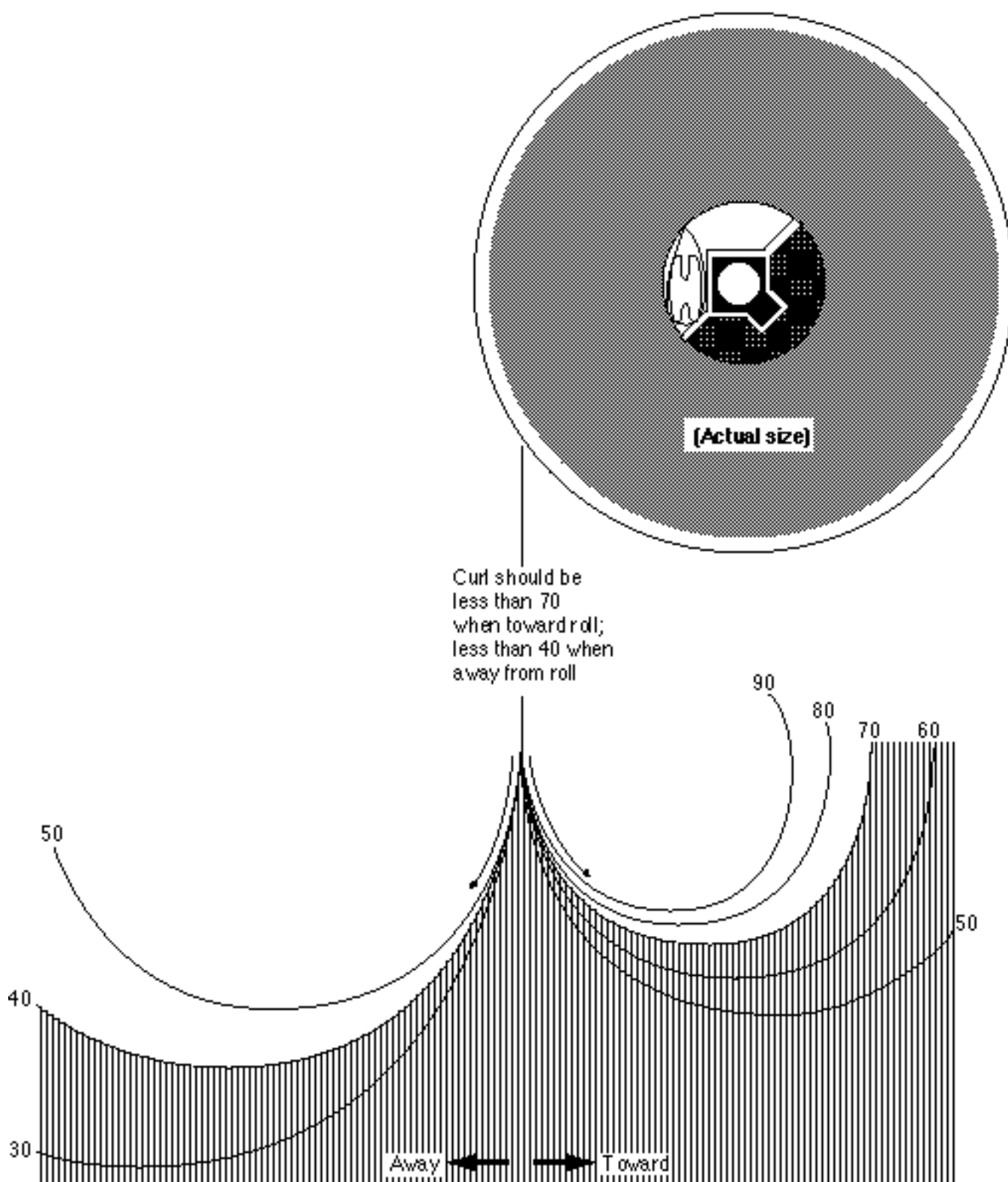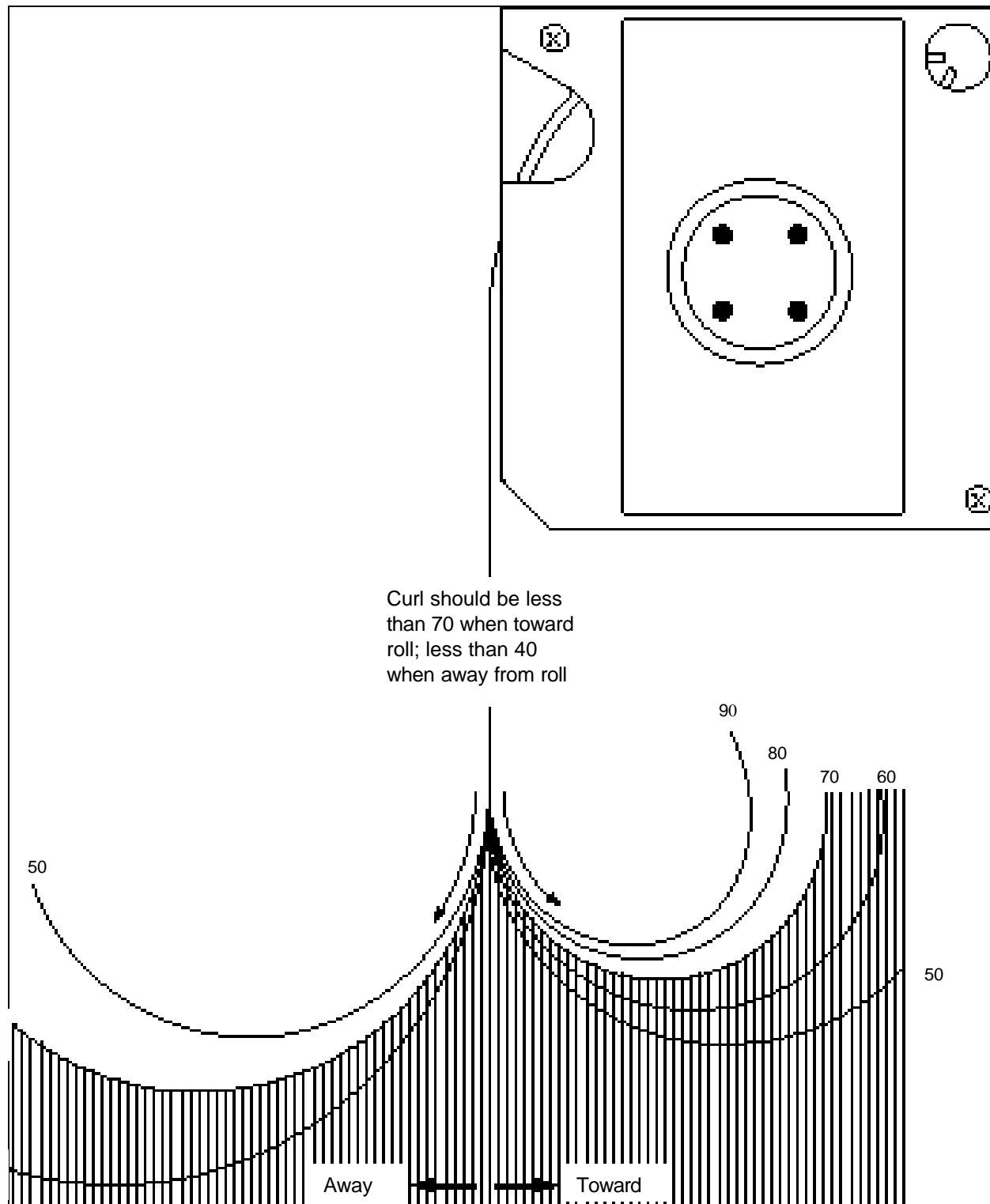
Film twist

Besides curl, the film should also be checked for twist. To make sure that the film's twist is within allowable limits:

Film twist
90° maximum
(either direction)
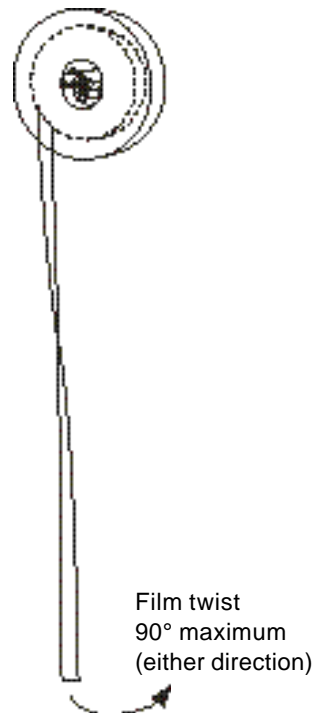
- Allow about 12 in. (305 mm) of film to hang down from the reel.
- If the film twists more than 90° in either direction, a leader should be attached.

Film magazine condition   The condition of the film magazine is another factor affecting optimum performance of the scanner. Film magazine conditions should meet the following criteria:

- The film magazine must not be distorted in shape (either closed downward or stretched outward).
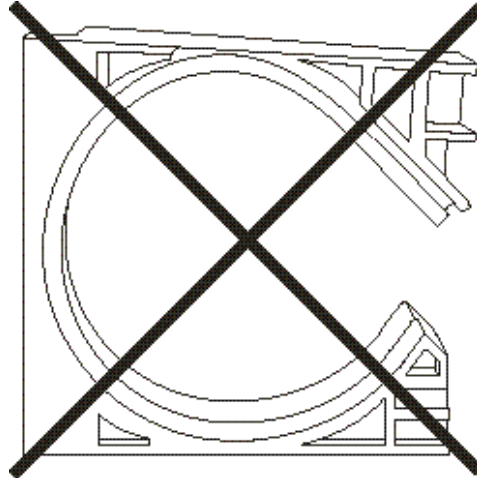
- The film magazine's internal walls should be free of nicks, burrs, or other surface defects that lead to reduced threading and other problems.

Microfilm storage

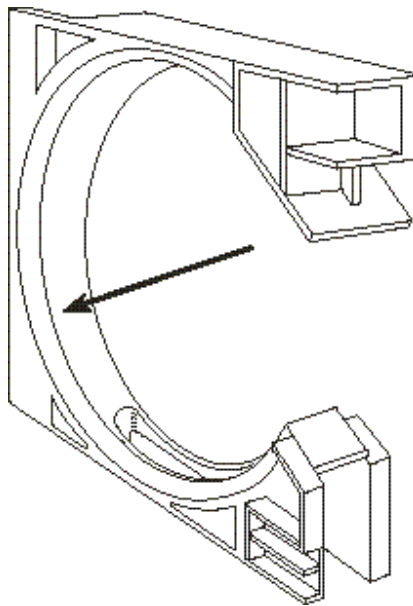Microfilm should always be handled and stored with care. Storage of your film should be based on the following:

- How long you want to keep the images on the microfilm: short, medium, long term, or permanently.

- How difficult the images are to replace.

- The cost of preserving the microfilm.

For maximum protection of your microfilmed images, you should duplicate each reel of film and use the duplicate reels for retrieval operations. The original reels should be stored at a different location.

In general, use the same rules for storing microfilm as you would for storing paper documents. For example:

- A relative humidity level between 15 and 60 percent should be maintained.

  ◊ Relative humidity above 60 percent can cause mildew to form on stored microfilm. Moisture-tight cans can help protect the film against moisture.

  ◊ Relative humidity below 15 percent can cause a static charge to build up on the microfilm, or cause older film to become brittle.

- Water damage: if microfilm becomes wet, the film may warp. Store your film off the floor to protect it from flooding. If your microfilm becomes wet, do not let it dry. This can cause the film to stick together. Completely immerse the film in clean water, and have it rinsed and dried by a professional processing lab as soon as possible.

- Exposure to contaminants: paint fumes, coal gas, ozone, ammonia (produced by some photo copiers), and other chemical contaminants can cause microfilm to fade or form microscopic blemishes. To avoid this damage, use air conditioning, air filtration, and other means to remove airborne contamination.

- Using rubber bands on microfilm: residual sulfur from the vulcanizing process can promote the growth of microscopic blemishes on the film.

- Excessive heat: heat can cause the microfilm to buckle and distort, or decrease readability. To protect your film from fire, consider using fireproof storage vaults, cabinets, or safes.

Appendix B   Search Programs

You have a choice of 30 search programs to count image marks. These programs are identified in tables on the following pages.

Selecting a search program

To select the appropriate search program:

1. Look at the film to see which channel(s) contain(s) image marks.

2. Determine the size(s) of image marks on the film.

3. Determine whether the film format is:

Simplex — images are commonly reduced to approximately 1/24 of the original size; only one image appears across the width of the film.
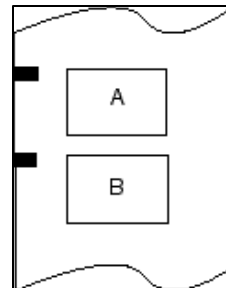
Duplex — images are commonly reduced to approximately 1/40 of the original size; the front and back of the same image appear across the width of the film.
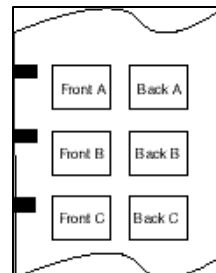
Duo — images are commonly reduced to approximately 1/40 of the original size; images are filmed to the end of one channel, then other images are filmed on the other channel.
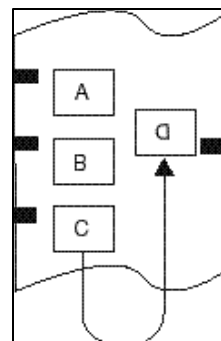
When you have the information from Steps 1-3, select the appropriate search program table on the following pages.

- Table B-1 is for simplex or duplex film with image marks in Channel A only.

- Table B-2 is for simplex or duplex film with image marks in Channel B only.

- Table B-3 is for duo film (the image mark sequence continues from Channel A to Channel B).

- Table B-4 is for simplex or duplex film with image marks in both Channel A and Channel B (the image mark sequence does not continue from Channel A to Channel B).

Example:

Channel   Channel
A   B

Chapter
6.0
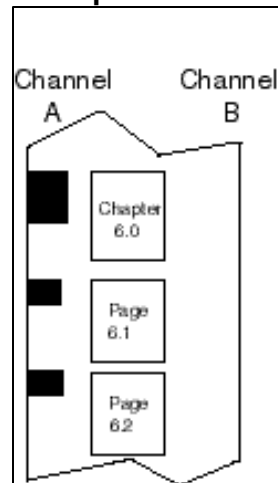
Page
6.1

Page
6.2

The illustration above contains image marks in Channel A only. Two sizes of image marks are on the film: small and medium. (Small image marks represent pages; medium image marks represent chapters.) A check of the tables on the following pages shows that Search Program 10 would be the appropriate choice for this type of film.

NOTE: Some search programs enable you to count image marks as if they were the same types regardless of the size of the image mark. For instance, if you do not want to distinguish chapters from pages in the sample above, you can use Search Program 7, which counts all image mark sizes as pages.

Image marks in Channel A only

NOTE: The film can be simplex or duplex (duplex is shown in the illustration).
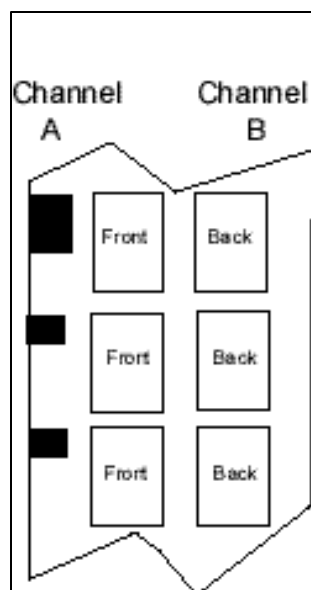
Table B-1 Image Marks in Channel A only

Image mark size	Image mark size	Image mark size	Search program	Number of levels
		Small	3	1
		Medium	5	1
		Large	25	1
		All sizes of image marks	7	1
	Medium	Small	10	2
	Large and Medium	Small	12	2
	Large	Medium	23	2
Large	Medium	Small	18	3

Image marks in Channel B only

NOTE: The film can be simplex or duplex (duplex is shown in the illustration).
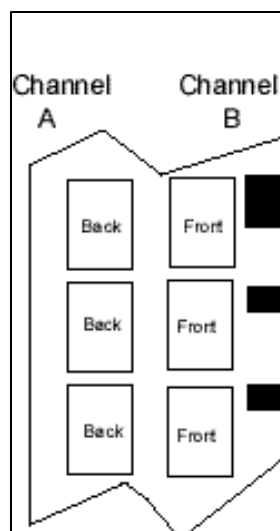
Table B-2 Image Marks in Channel B only

Image mark size	Image mark size	Image mark size	Search program	Number of levels
		Medium	6	1
		All sizes of image marks	9 27*	1 1
	Medium	Small	14	2
Large	Medium	Small	20	3

* Search Program 27 counts down (e.g. 10000, 9999, 9998), rather than up.

Image marks in both Channels: duo film

In these films, the image mark sequence continues from Channel A to Channel B (see the following illustration).

You can reduce search time by setting the last image address in Channel B by using the keypad or by Image Management Code on the film. With the last image address identified, the scanner can count down in Channel B while counting up in Channel A; if the address is not set, Channel B will be searched after Channel A. For more information see the section entitled, "The Image Retrieval keypad" in Chapter 2 and Appendix C, *Glossary*.
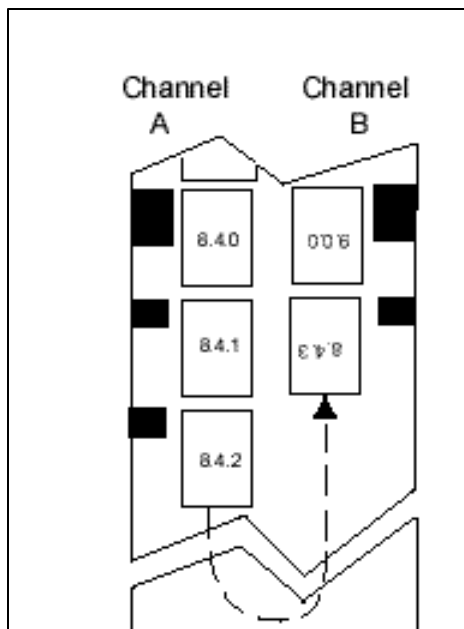
Table B-3 Image Marks in both channels: duo film

Image mark size	Image mark size	Image mark size	Search program	Number of levels
		Small	4	1
		Medium	2	1
		Large	26	1
		All sizes of image marks	8 11	1 2
	Medium	Small	11	2
	Large and Medium	Small	13	2
	Large	Medium	24	2
Large	Medium	Small	19	3
		Small	28*	1
	Medium	Small	29*	2
Large	Medium	Small	30*	3

* Search Programs 28, 29, and 30 reverse the usual channel wrapping order (i.e., the code sequences wrap from Channel B to Channel A, rather than from Channel A to Channel B).

Image marks in both Channels: simplex or duplex film

In these films, the image mark sequence does not continue from Channel A to Channel B (Simplex film is shown in the following illustration).

Both channels are searched simultaneously from the beginning of the film to the end of the film.
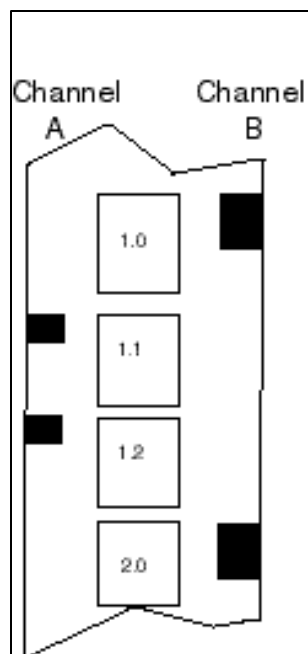
Table B-4 Image marks in both channels: simplex or duplex film

Image mark size	Image mark size	Image mark size	Search program	Number of levels
	Medium in Channel B	Small in Channel A	15	2
	Medium in Channel B	All sizes of image marks in Channel A	16	2
	All sizes of image marks in Channel B	All sizes of image marks in Channel A	17	2
Large in Channel B	Medium in Channel A	Small in Channel A	21	3
Large in Channel B	Medium in Channel B	Small in Channel A	22	3
		All sizes of image marks in Channel A and Channel B	31	1

Appendix C   Glossary

Application — contains all the software parameters that will allow images to be easily searched, processed and delivered to the PC.

Auto-Crop ¾ automatically removes the border of an image.

Auto Deskew ¾ automatically straightens the displayed image.

Batch — a finite number of documents or images that are uniquely indexed. A roll of film can contain several batches.

Batch Download — the process of transmitting and storing a series (or batch) of image addresses and commands to be executed by the scanner. The series of commands may be executed automatically or through the scanner keyboard.

Bi-tonal — images comprised primarily of black and white; no gray levels.

Blips ¾ see *Image marks*.

Border Removal ¾ removes the borders from around the scanned image, but maintains the physical image size.

CAR — Computer-Aided Retrieval is a method of indexing and retrieving microfilm images, using a computer to store and retrieve image addresses and control the retrieval of images at the scanner.

Channel — an area along either edge of the microfilm that is reserved for image marks. On an exposed and processed roll of film wound on a reel, Channel A is at the side of the reel with the round hole; Channel B is at the side with the square hole. The scanner is capable of reading one or both channels on a roll of film.

Cropping ¾ allows you to draw a rectangle around a specific area of an image and discard any information outside of the rectangle.

Document — a paper document is a collection of one or more pages; an electronic document is a collection of one or more images.

Duo Microfilm — has two rows of images on one roll; the second row "wraps around" at the core end to become a continuation of the first. Duo microfilm can be either simplex or duplex. Scanner retrieval programs can read both channels simultaneously for fast retrieval.

Duo Duplex ¾ a variation of duo film from a check camera sorter that places the front and back of the check side by side in one channel with the length of the check along the edge of the film. Indexing sequence in the B channel does not wraparound from the A channel.

Duplex — microfilm which contains images of both the front and back of each document as compared to simplex microfilm, which contains images of only one side of each document.

Duplex Microfilm — contains images of both the front and back of each document, exposed in one pass through the microfilmer.

Folder — consists of one or more documents. Each folder must have a unique name assigned to it when connecting to a VNN. A specified folder and document remains as the output destination until you disconnect from the VNN, connect as a different device, or specify a different folder and/or document. Folders allow multiple documents to be printed, faxed or emailed at one time as a group.

Gray Scale — an image that contains 16 levels or 256 levels of gray information in the image.

Group 4 — a type of compression to reduce the size of a bi-tonal image file.

Image — a film image represents a document front or back. Electronic images from film make up a document. These images are retrieved using the image address.

Image Management Code — Image Management Code (IMC) is put on film during microfilming. It automatically sets up the scanner with roll number, values for A and B channel positions, recovery code, zoom lens magnification, and image orientation. Retrieval accuracy is improved and you will not need to perform those tasks manually.

IMC marks can be distinguished from image marks by the following:

- IMC marks are never associated with images.

- IMC marks are always enclosed between "start" and "stop" marks.

Image marks (sometimes called blips) — are rectangular marks exposed by the microfilmer in one or both channels (see *Channel*) adjacent to document images on microfilm. Image marks are sensed and counted by the scanner during a search to locate and retrieve specific images.

Image Server Software — *Kodak* Image Server Software is a background process software application, which runs on a separate PC. It provides an integral component of a larger system of Kodak and integrator-supplied micrographics devices and applications that are connected together by a local area network.

IMS — refers to the *Kodak Digital Science* Intelligent Microimage Scanner.

JBIG — a TIFF file that uses JBIG compression.

JPEG — a type of compression to reduce the file size of a gray scale image.

Landscape — image or paper orientation in the shape of a conventional landscape painting, where width is greater than height.

Lead End Code — exposed by the microfilmer on a roll of film before any other code. It appears only after the recommended threading leader, and before Preset Code. It contains:

- Start character
- Roll number
- Mode modifiers
- Image offset
- Magnification
- Image polarity
- Stop character

MAPI — Microsoft Messaging Application Programming Interface. A messaging architecture and a client interface component for applications such as electronic mail, scheduling, calendaring and document management. As a messaging architecture, MAPI provides a consistent interface for multiple application programs to interact with multiple messaging systems across a variety of hardware platforms.

Multilevel indexing — a means of grouping documents in a structured manner where one type of document is associated with a particular level and another type of document is associated with another level of greater or lesser importance or rank. In contrast, single-level indexing assigns equal importance to each document and no grouping by level takes place. A typical example of multilevel indexing is an insurance application with claims associated with Level 2, and attachments associated with Level 1.

NOTE: The scanner supports 3-level indexing,

Level — this is the number of different image marks the program will count.

1 level means all image marks will be counted equally regardless of size.

2 level means all image marks will be counted in two classifications. The easiest to consider is small and medium image marks. You can also have small and medium counted as one classification and large image marks as the second classification; or you could have small image marks counted as one classification, and medium and large image marks counted as the other classification.

3 level means all image marks will be counted in three classifications. The easiest to consider is small, medium and large image marks.

Network Node — a logical entity within the Image Server Software.

Original Size — the image is displayed in the window based on the dimensions and resolution of the scanned image (i.e., an inch on the scanned image is displayed as an inch on the screen).

Page — a page is always in paper form and is part of a paper document. A page can produce one or more image (single-sided page) or two images (double-sided page) after scanning.

Plus Indexing — the capability of the scanner to advance across chapter boundaries.

Portrait — image or paper orientation in the shape of a conventional portrait, where height is greater than width.

Postset Code — See *Trail End Code.*

Preset —setting the image counters of the scanner to a specified value. The image address count can be preset from the scanner keyboard, by Image Management Code on the microfilm, or by sending a command string to the scanner.

Preset Code — provides the scanner with the information needed to recognize the first image address on the roll of microfilm. It consists of:

- Start image mark
- Level information
- Postset Code (duo film only), which enables the scanner to search duo film in Channel B at the same time as Channel A.

Random Batch Code — Image Address Setup Code is called Random Batch Code when used among document batches on a roll of microfilm. It identifies a change of levels caused by an image address change, a batch change, or the filming or refilming of a document or batch of documents out of their normal sequence.

Registers — a portion of computer memory set aside for the storage of an image address, command, and/or text message. Information stored in a sequence of registers can be recalled and processed automatically by computer command or manually by an operator at the scanner.

Retrieval — the action of finding stored information, such as locating and displaying microfilm images using the scanner.

Scrolling — the ability to continuously move images on the film until the desired image is found.

Search Program — a set of instructions that define how the scanner counts different size image marks in a given application.

Sharpening Filter — an algorithm that sharpens or softens the edges of information within an image.

Simplex — microfilm which contains images of only one side of each document as compared to duplex microfilm, which contains images of both the front and back of each document.

SMTP — Simple Mail Transfer Protocol.

TIFF — Tagged Image File Format.

Trail End Code — enables the scanner to search duo film in Channel B at the same time as in Channel A (also called Postset Code).

Appendix D   Productivity Tools

Introduction

This appendix provides information regarding two batch files contained on the CD that is packed with the scanner. The files are located in the Product Software directory found in the Application Software directory on the CD. These two files facilitate specification of keyboard shortcuts and application setups by providing templates that can be loaded and used as is, or modified as desired. To install the templates, ***make sure the Application Software is not running***, and run the batch files.

- The **predefined applications.bat** file contains the application setup templates. Existing applications contained in the IMSApp.dat file will be automatically backed up to prevent their deletion when the templates are loaded.

- The **keyboard shortcuts.bat** file contains the keyboard shortcuts template.

If you wish to further customize the retrieval applications after installing the application setup templates, see Chapter 4, *Application Setup.*

If you wish to further customize the keyboard after installing the keyboard shortcuts template, see the section entitled "Customizing your keyboard" in Chapter 2.

NOTE: Do not use F10, the standard Windows shortcut for activating the main menu, or Alt+F4, the standard Windows shortcut for closing a software application.

Keyboard shortcuts template

Whenever possible the template complies with the standard shortcut keys used by Windows in Word, Excel, etc. This reduces training time and minimizes user frustration. The template map is shown below.

Menu Entry	Shortcut	Menu Entry	Shortcut
File>Open Image	Ctrl+O	View>Fit Width	F2
File>Save	Ctrl+S	View>Rotated 90° Clockwise	F3
File>Close	Ctrl+W	View>Zoom In	Ctrl+Alt+Z
File>Print	Ctrl+P	View>Zoom Out	Ctrl+Alt+X
File>Fax	Ctrl+F	View>Annotation Toolbox	F8
File>Send As eMail	Ctrl+M	View>Keypad	Ctrl+K
Edit>Undo	Ctrl+Z	View>Refresh	F5
Edit>Redo	Ctrl+Y	Navigate>Previous Image	Ctrl+-
Edit>Cut	Ctrl+X	Navigate>Next Image	Ctrl++
Edit>Copy	Ctrl+C	Navigate>Clear	Ctrl+Alt+C
Edit>Paste	Ctrl+V	Navigate>Set A	F11
Edit>Crop	F9	Navigate>Refile Film	F12
Annotate>Text	F6	Image Processing> Manual Deskew	F4
Annotate>Load Image	F7		

Application setup templates

The application setup templates represent combinations of parameter values that have been found to provide the best retrieval results for several typical film types. The templates are documented below including explanations of the various settings.

Template 1 ¾
3890 Check film

This template is recommended when retrieving images from 3890 check film (50X reduction). These settings work well alone or when using a CAR system from Carreker-Antinori, Inc., Pegasystems, Inc., or Sterling Commerce. However, when using a system from K2 Microsystems, you will need to use settings that are compatible with the interface that they provide.

3890 film, General tab template settings

The information below includes only the values that are different from the system default settings. For more information about the General and Output tabs in Chapter 4.

Template specific settings

1. Application Name: **3890**.
2. Search Program: **09**.
3. File Naming Convention, "image" optional parameter (.n): **8.**

Explanation of settings (see the illustration that follows)

1. Application Name: This name may be changed if desired by entering a new name.

2. Search Program: Do not change the search program or the scanner will not retrieve images correctly.

3. File Naming Convention: The scanner uses C:\IMAGES as the default root directory for saving image files. This may be changed if desired by using the Change button on the Output tab. File naming conventions must also be specified. File names can include a prefix (i.e., ABC as shown in the example below). To change the file naming conventions edit the File Naming Convention field in the Naming Convention Properties dialog box. It is recommended that you do not change the "image" optional parameter from 8 in order to accommodate IBM sequence numbers.
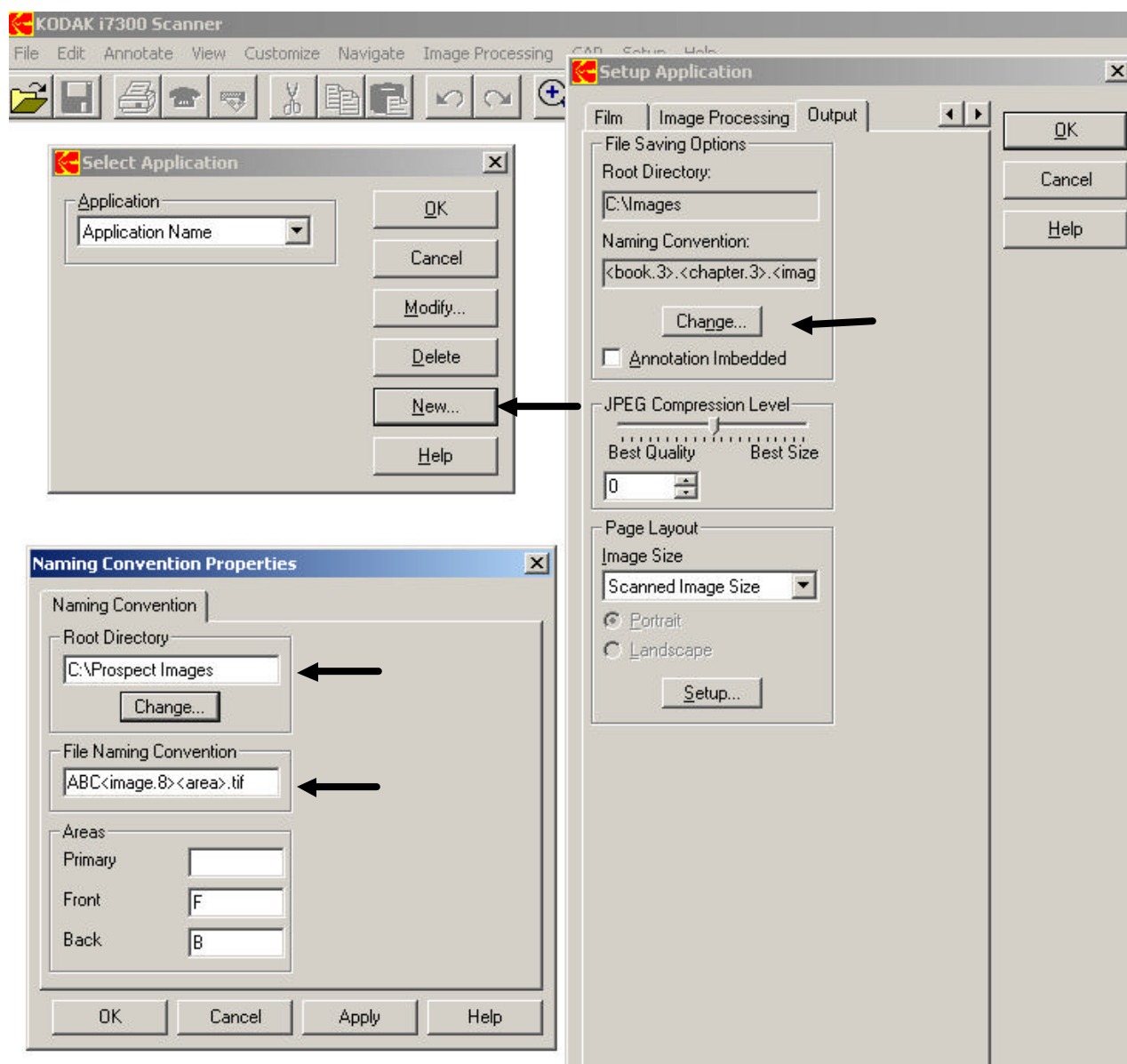
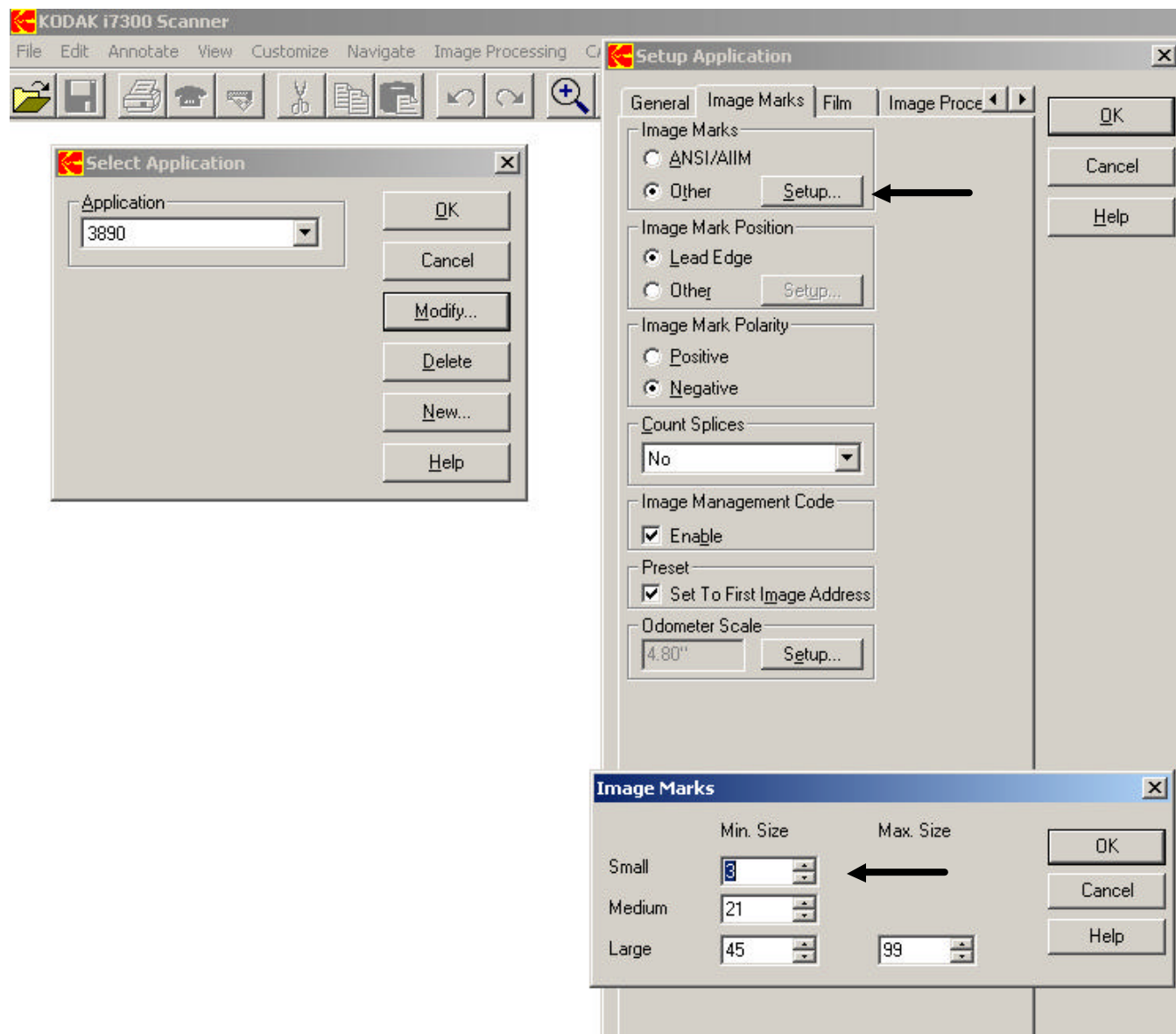**3890 film, Image Marks tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the Image Marks tab, see the section entitled "Setting values on the Image Marks tab" in Chapter 4.

Template specific settings

- Image Marks: **Other, Min Size - Small: 2.**

Explanation of settings (see the illustration that follows)

- Image Marks: A setting of 2 will improve the retrieval accuracy when the image marks are smaller than normal.
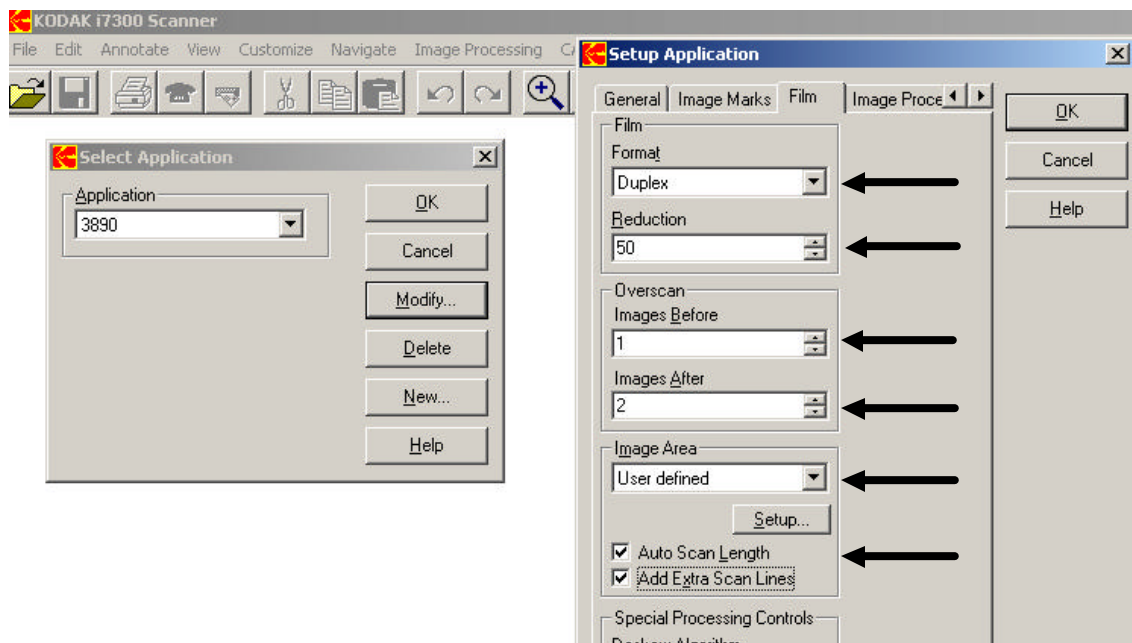
3890 film, Film tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Film tab, see the section entitled "Setting values on the Film tab" in Chapter 4.

Template specific settings
1. Film – Format: **Duplex**.
2. Film – Reduction: **50**.
3. Overscan – Images Before: **1.**
4. Overscan – Images After: **2**.
5. Image Area: **User Defined.**
6. Auto Scan Length: **Enabled**.

Explanation of settings (see the illustration that follows)
1. Film – Format: The format must be Duplex.

2. Film – Reduction: The reduction must be 50X.

3. Overscan (Images Before and Images After): Due to the large reduction ratio, poor image alignment within the film frame, and the small distance between image marks, Overscan must be used. No more than 6 images should be scanned at one time.

4. Image Area: Since Auto Scan Length determines only the scan length, the Image Area setting must be used to determine scan width. A User Defined image area setting was used. This setting may need to be modified so the specified scan width accommodates your specific needs, i.e., to eliminate the image marks (or other extraneous information outside the image) for display and processing. Be sure to specify an area that accommodates large business-size checks, and allows for potential image location irregularity on the film, to prevent truncation of images.

5. Auto Scan Length: Allows the software to determine scan length based upon the distance between image marks.

3890 film, Image Processing tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Image Processing tab, see the section entitled "Setting values on the Image Processing tab" in Chapter 4.

When Duplex Processing is enabled, there are four available Scan Area settings. Separate image processing parameters can be specified for each except for Resolution, Scan Output and Film Polarity.

Template specific settings
1. Scan Area: **Primary**
2. Duplex Processing: **Manual**
3. Resolution: **Enhanced**
4. Rotate: **180° clockwise**
5. Border: **Border Remove**
6. Film Image Quality: **Normal Film**
7. Overscan: **Enabled**

Template specific settings
1. Scan Area: **Film View**
2. Duplex Processing: **Manual**
3. Resolution: **Enhanced**
4. Rotate: **180° clockwise**
5. Border: **Border Remove**
6. Film Image Quality: **Normal Film**
7. Overscan: **Enabled**

Template specific settings
1. Scan Area: **Front**
2. Duplex Processing: **Manual**
3. Resolution: **Enhanced**
4. Sharpening: **Photo & Text**
5. Rotate: **180° clockwise**
6. Border: **Border Remove**
7. Film Image Quality: **Normal Film**
8. Overscan: **Enabled**

Template specific settings
1. Scan Area: **Back**
2. Duplex Processing: **Manual**
3. Resolution: **Enhanced**
4. Sharpening: **Text**
5. Rotate: **180° clockwise**
6. Border: **Border Remove**
7. Film Image Quality: **Normal Film**
8. Overscan: **Enabled**

Explanation of settings (see the illustration that follows)

1. Scan Area:

   - When Primary is selected, the same image processing settings will be applied to both front and back.
   - When Film View is selected, the image processing settings will be applied in the Select Overscan and Duplex Processing dialog boxes as well as in the Image pane.
   - When Front is selected, the image processing settings are applicable to the front side image only.
   - When Back is selected, the image processing settings are applicable to the back side image only.

2. Duplex Processing: Duplex Processing must be enabled.

3. Resolution: Enhanced will provide the best image quality.
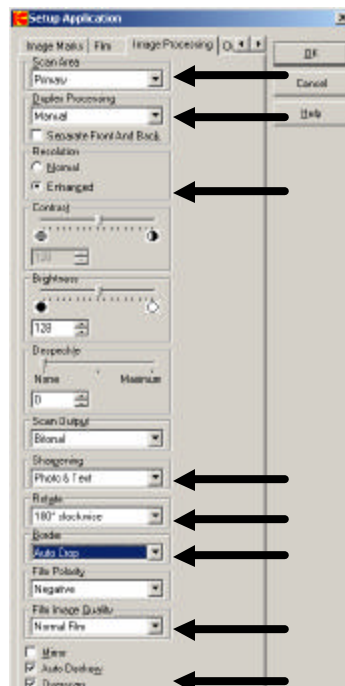
4. Sharpening:

   - Photo & Text provides the best clarity for front side images since they usually contain non-text information.
   - Text provides the best clarity for back side images since they usually contain text only.

5. Rotate: displays the images right side up.

6. Border: provides consistent border removal to accommodate varying sized checks.

7. Film Image Quality: improves the contrast of the image.

8. Overscan: scans the specified number of images before and after the image requested to accommodate poor image alignment within the film frame.

Template 2 ¾ County Land Title film

This template is recommended when retrieving County Land Title images that were captured to film (24X reduction) using planetary or rotary microfilmers, or the *Kodak* i9600 Series Writer.

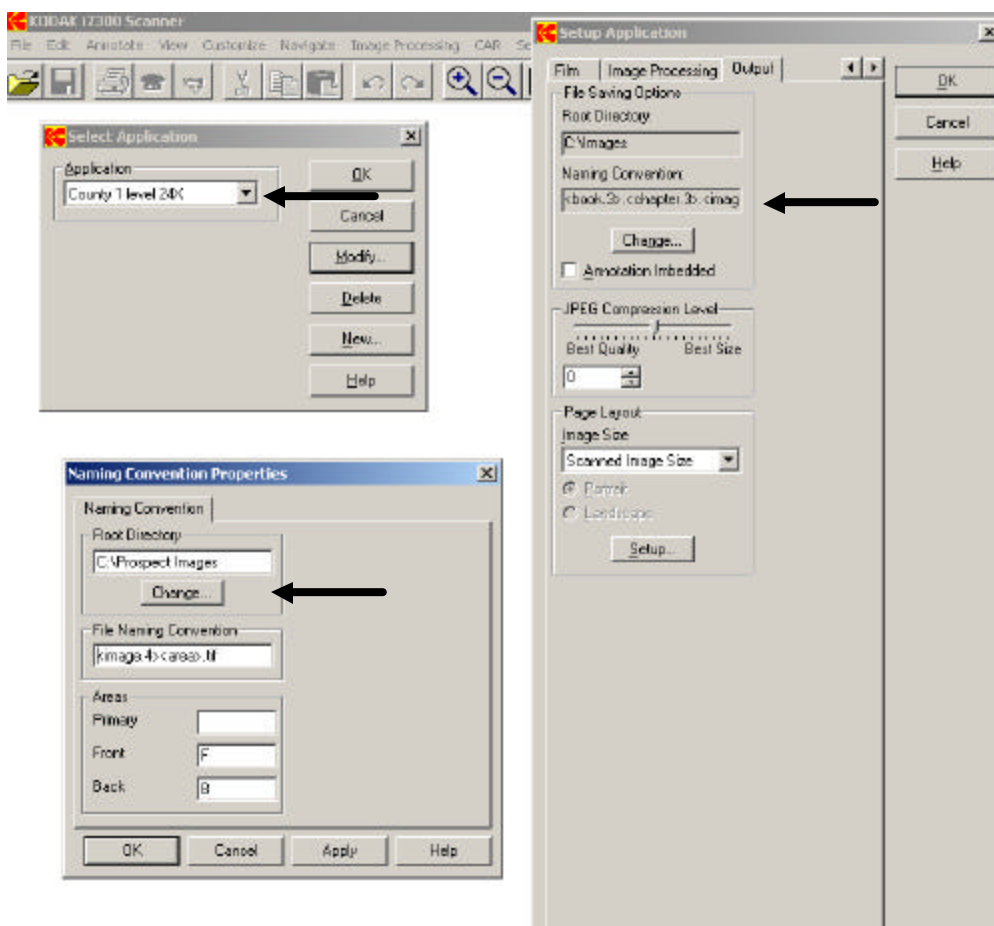**County Land Title film, General tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the General and Output tabs, see Chapter 4.

Template specific settings

1. Application Name: **County 1 Level 24X**.

2. Search Program: **03**.

Explanation of settings (see the illustration that follows)

1. Application Name: This name may be changed if desired by entering a new name.

2. Search Program: Do not change the search program on the General tab or the scanner will not retrieve images correctly.

3. File Naming Convention: The scanner uses C:\IMAGES as the default root directory for saving image files. This may be changed if desired by using the Change button on the Output tab.

County Land Title film, Image Marks tab template settings

The Image Marks tab uses all system default settings. For more information about this tab, see the section entitled "Setting values on the Image Marks tab" in Chapter 4.
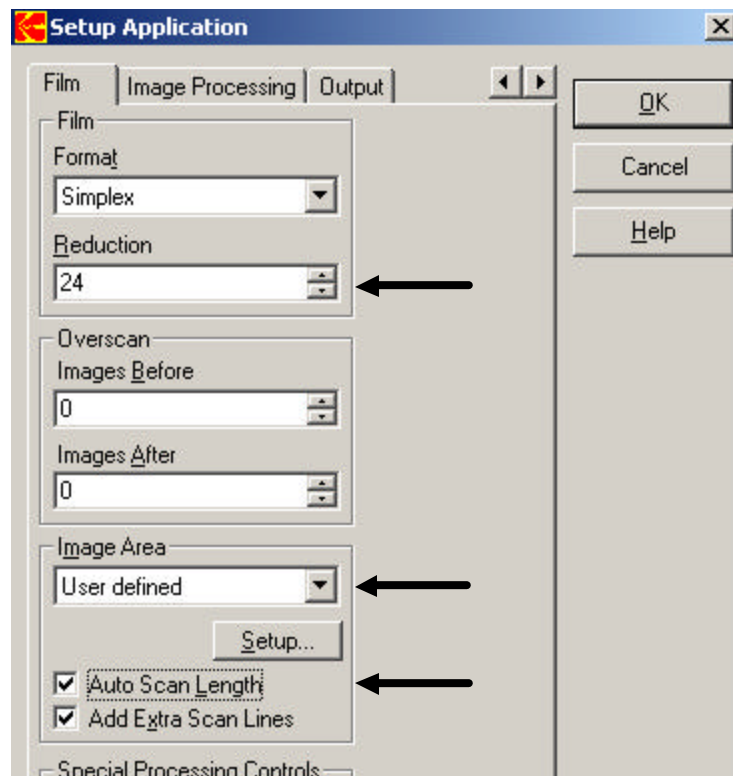
County Land Title film, Film tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Film tab, see the section entitled "Setting values on the Film tab" in Chapter 4.

Template specific settings

1. Film – Reduction: **24**.
2. Image Area: **User Defined**.
3. Auto Scan Length: **Enabled.**

Explanation of settings (see the illustration that follows)

1. Film – Reduction: The reduction must be 24X.

2. Image Area: Since Auto Scan Length determines only the scan length, the Image Area setting must be used to determine scan width. A User Defined image area setting was used. This setting may need to be modified so that the specified scan width accommodates your specific needs, i.e., to eliminate the image marks (or other extraneous information outside the image) for display and processing. Be sure to specify an area that accommodates the largest image present on the film, and allows for potential image location irregularity, to prevent truncation of any images.

3. Auto Scan Length: allows the software to determine scan length based upon the distance between image marks.

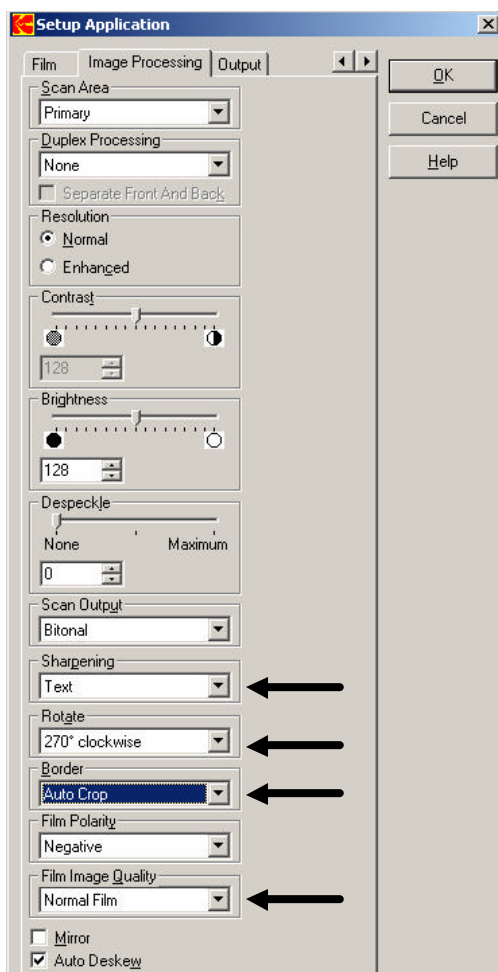**County Land Title film, Image Processing tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the Image Processing tab, see the section entitled "Setting values on the Image Processing tab" in Chapter 4.

Template specific settings

1. Sharpening: **Text**.

2. Rotate: **270° clockwise**.

3. Border: **Border Remove.**

4. Film Image Quality: **Normal Film**.

Explanation of settings (see the illustration that follows)

1. Sharpening: Text provides the best clarity for the typical content of County Land Title documents.

2. Rotate: displays the images right side up.

3. Border: provides consistent border removal to accommodate varying sized documents.

4. Film Image Quality: improves the contrast of the image.

Template 3 ¾
Claims 2-level film

This template is recommended when retrieving claims or insurance images from 2-level film (40X reduction).

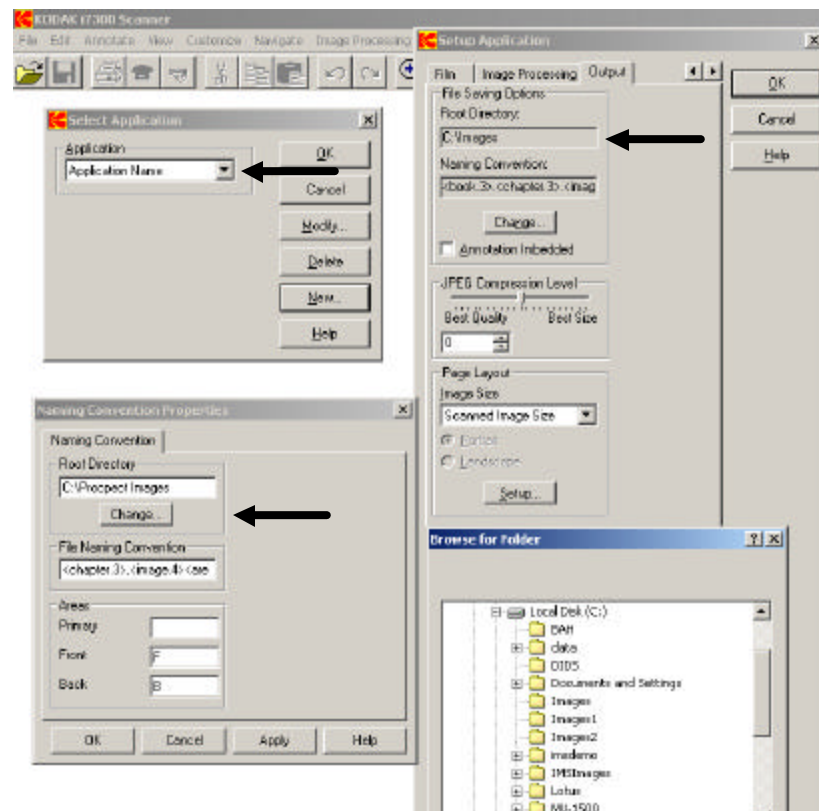**Claims 2-level film, General tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the General and Output tabs, see Chapter 4.

Template specific settings

1. Application Name: **Claims 2 Level.**
2. File Naming Convention: **INS<chapter.3>.<image.4><area>.tif**.

Explanation of settings (see the illustration that follows)

1. Application Name: This name may be changed if desired by entering a new name.

2. File Naming Convention: The scanner uses C:\IMAGES as the default root directory for saving image files. This may be changed if desired by using the Change button on the Output tab. Use the Change button on the Naming Convention Properties dialog box to view existing directories. . File naming conventions must also be specified. File names can include a prefix (i.e., INS as shown in the example below). To change the file naming conventions edit the File Naming Convention field in the Naming Convention Properties dialog box. You may want to change the "chapter" and "image" optional parameters. The example uses a 2-level number format, which may not suit your needs.

Claims 2-level film, Image Marks tab template settings

The Image Marks tab uses all system default settings. For more information about this tab, see the section entitled "Setting values on the Image Marks tab" in Chapter 4.

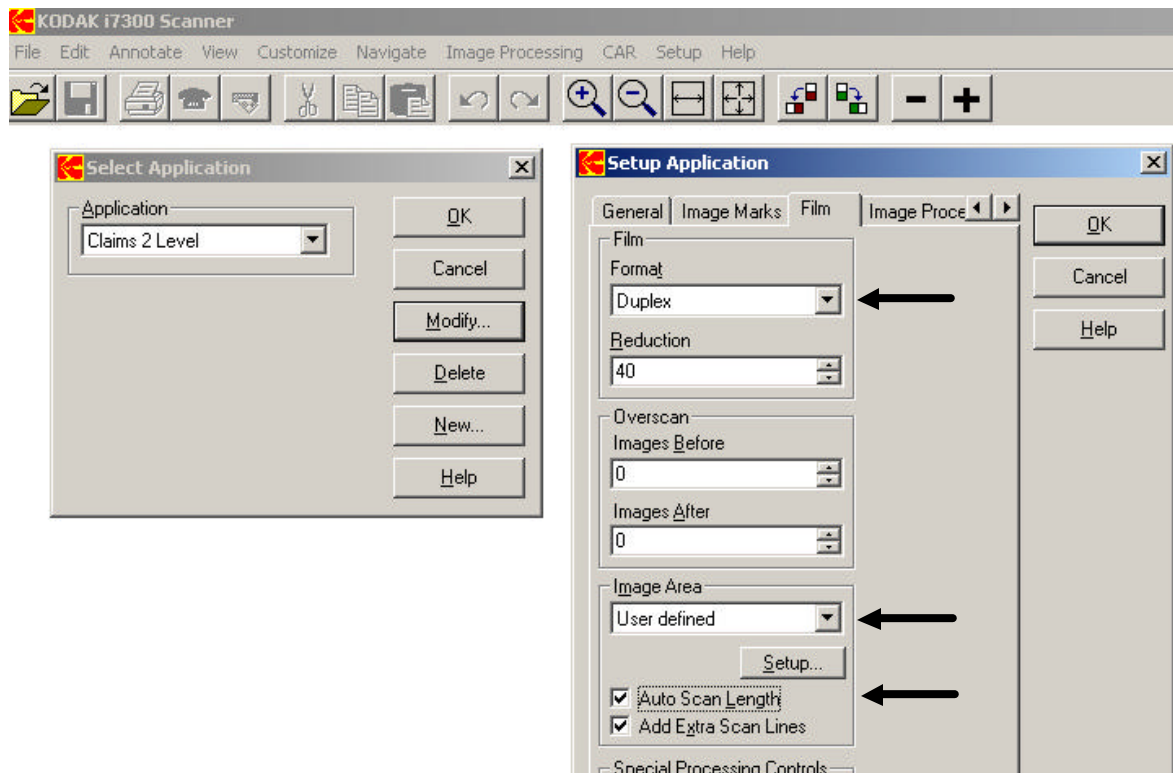**Claims 2-level film, Film tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the Film tab, see the section entitled "Setting values on the Film tab" in Chapter 4.

Template specific settings

1. Film – Format: **Duplex**.
2. Image Area: **User Defined.**
3. Auto Scan Length: **Enabled**.

Explanation of settings (see the illustration that follows)

1. Film – Format: The format must be Duplex.

2. Image Area: Since Auto Scan Length determines only the scan length, the Image Area setting must be used to determine scan width. A User Defined image area setting was used. This setting may need to be modified so that the specified scan width accommodates your specific needs, i.e., to eliminate the image marks (or other extraneous information outside the image) for display and processing. Be sure to specify an area that accommodates varying sized documents, and allows for potential image location irregularity on the film, to prevent truncation of any images.

3. Auto Scan Length: allows the software to determine scan length based upon the distance between image marks.

Claims 2-level film, Image Processing tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Image Processing tab, see the section entitled "Setting values on the Image Processing tab" in Chapter 4.

When Duplex Processing is enabled, there are four available Scan Area settings. Separate image processing parameters can be specified for each except for Resolution, Scan Output and Film Polarity.

Template specific settings
1. Scan Area: **Primary**
2. Duplex Processing: **Automatic**
3. Film Image Quality: **Normal Film**

Template specific settings
1. Scan Area: **Film View**
2. Duplex Processing: **Automatic**
3. Film Image Quality: **Normal Film**

Template specific settings
1. Scan Area: **Front**
2. Duplex Processing: **Automatic**
3. Sharpening: **Photo & Text**
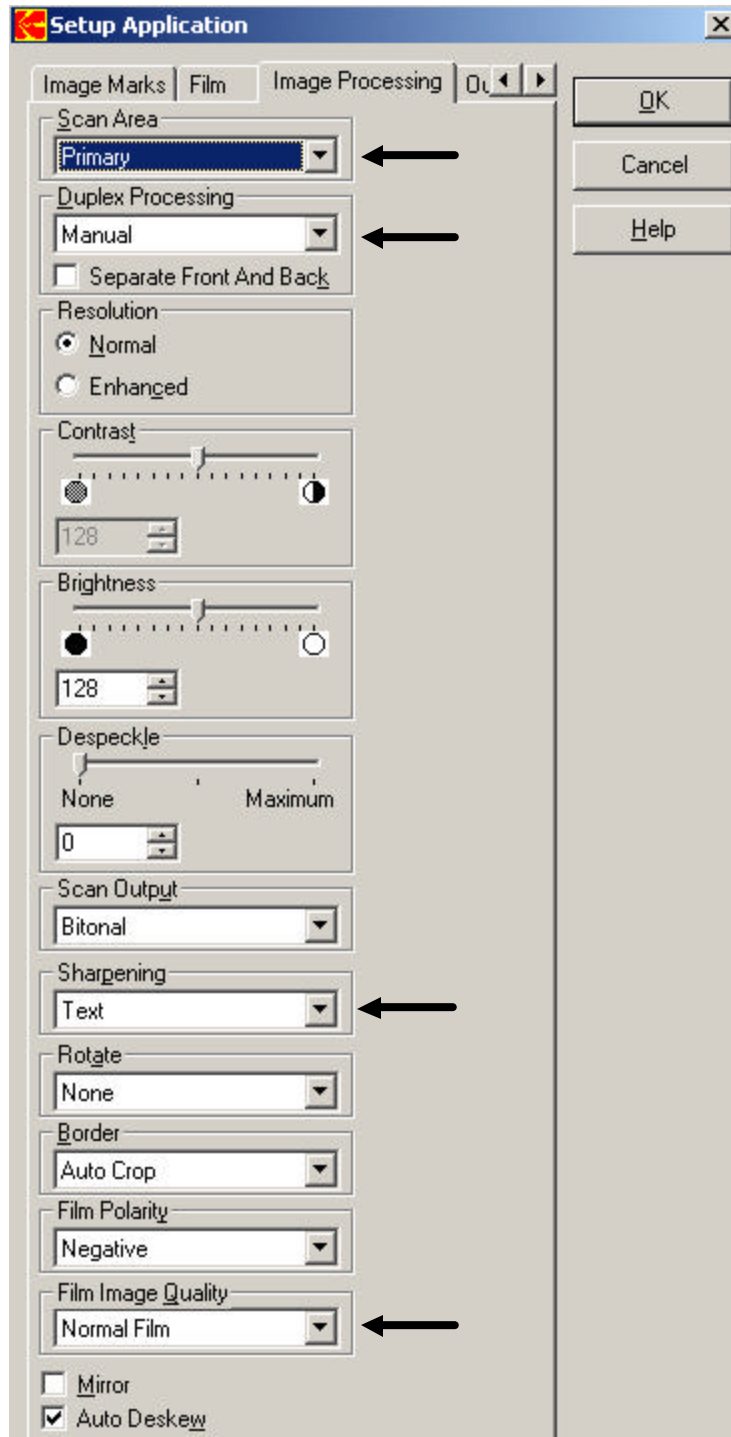4. Film Image Quality: **Normal Film**

Template specific settings
1. Scan Area: **Back**
2. Duplex Processing: **Automatic**
3. Sharpening: **Text**
4. Film Image Quality: **Normal Film**

Explanation of settings (see the illustration that follows)

1. Scan Area:

   • When Primary is selected, the same image processing settings will be applied to both front and back.

   • When Film View is selected, the image processing settings will be applied in the Select Overscan and Duplex Processing dialog boxes as well as in the Image pane.

   • When Front is selected, the image processing settings are applicable to the front side image only.

   • When Back is selected, the image processing settings are applicable to the back side image only.

2. Duplex Processing: Duplex Processing must be enabled.

3. Sharpening:

- Photo & Text provides the best clarity for front side images since they usually contain non-text information.

- Text provides the best clarity for back side images since they usually contain text only.

4. Film Image Quality: improves the contrast of the image.

Template 4 ¾
Claims 3-level film

This template is recommended when retrieving claims or insurance images from 3-level film (40X reduction). **This template is identical to Template 3 except for the changes indicated below.**

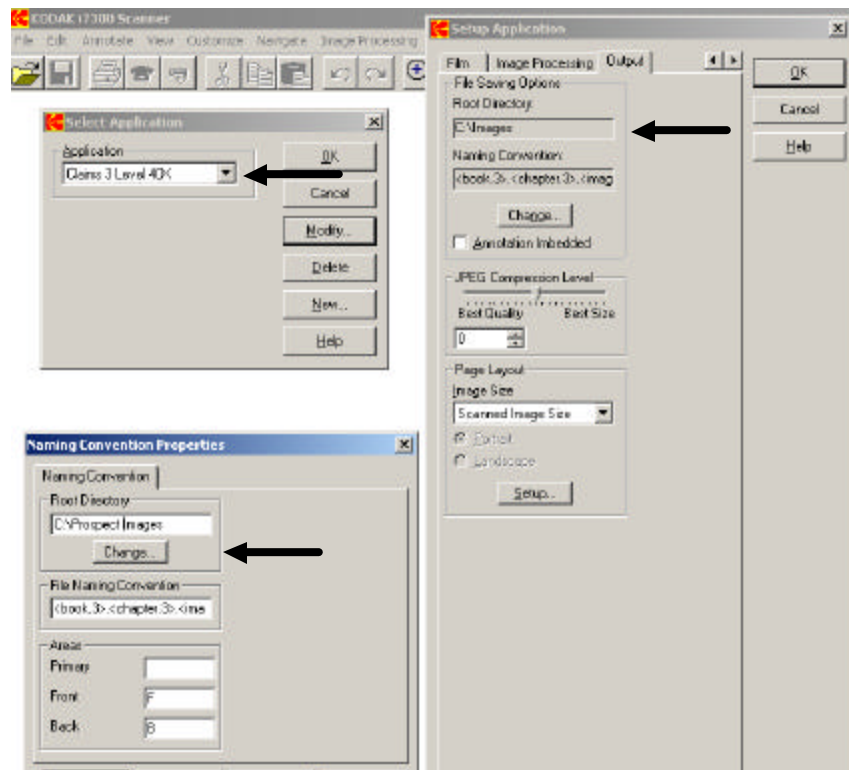**Claims 3-level film, General tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the General and Output tabs, see Chapter 4.

Template specific settings
1. Application Name: **Claims 3 Level**.
2. Search Program: **18**.
3. File Naming Convention: **<book.3>.<chapter.3>.<image.3><area>.tif**.

Explanation of settings (see the illustration that follows)

1. Application Name: This name may be changed if desired by entering a new name.

2. Search Program: Do not change the search program or the scanner will not retrieve images correctly.

3. File Naming Convention: The scanner uses C:\IMAGES as the default root directory for saving image files. This may be changed if desired by using the Change button on the Output tab. Use the Change button on the Naming Convention Properties dialog box to view existing directories. File naming conventions must also be specified. To change the file naming conventions edit the File Naming Convention field in the Naming Convention Properties dialog box. The naming convention is set for 3-level naming.

Template 5 ¾ Odometer film

This template is recommended when retrieving images that were captured to film (24X reduction) without image marks, using planetary or rotary microfilmers.

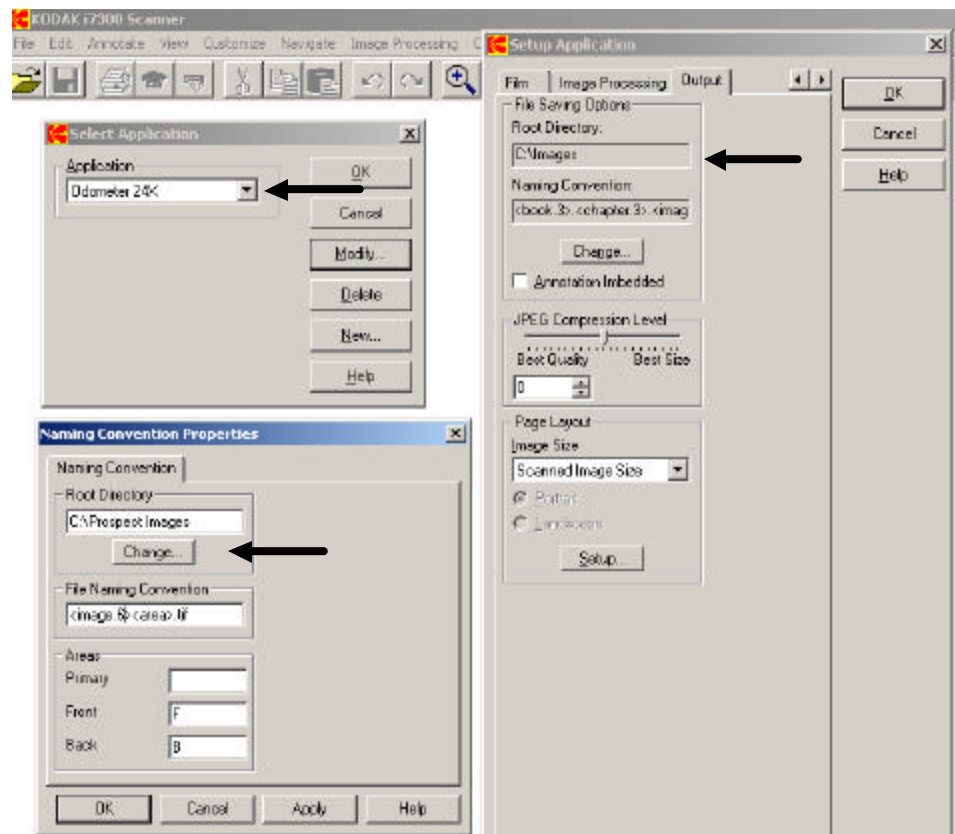**Odometer film, General tab template settings**

The information below includes only the values that are different from the system default settings. For more information about the General and Output tabs, see Chapter 4.

Template specific settings

1. Application Name: **Odometer 24X.**

2. Search Program: **01**.

3. File Naming Convention: **<image.6><area>.tif**.

Explanation of settings (see the illustration that follows)

1. Application Name: This name may be changed if desired by entering a new name.

2. Search Program: Do not change the search program or the scanner will not retrieve images correctly.

3. File Naming Convention: The scanner uses C:\IMAGES as the default root directory for saving image files. This may be changed if desired by using the Change button on the Output tab. File naming conventions must also be specified. To change the file naming conventions edit the File Naming Convention field in the Naming Convention Properties dialog box. It is recommended that you do not specify an "image" optional parameter less than 6.

Odometer film, Image Marks tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Image Marks tab, see the section entitled "Setting values on the Image Marks tab" in Chapter 4.

Template specific settings

- Image Management Code: **Disabled**.

Explanation of settings (see the illustration that follows)

1. Image Management Code: not applicable for odometer film.

2. Odometer Scale: the system default setting of 4.80 inches may not meet your needs. The following table serves as a guideline for some common images.

Comic/Cine	Length on Film	24X	40X
Comic	8.5 inches	0.36	0.22
Cine	11 inches	0.46	0.28
Cine	14 inches	0.60	0.35
3890 Checks	2.9 inches	0.06 at 50X	

NOTE: The increment selected should approximate the image length.
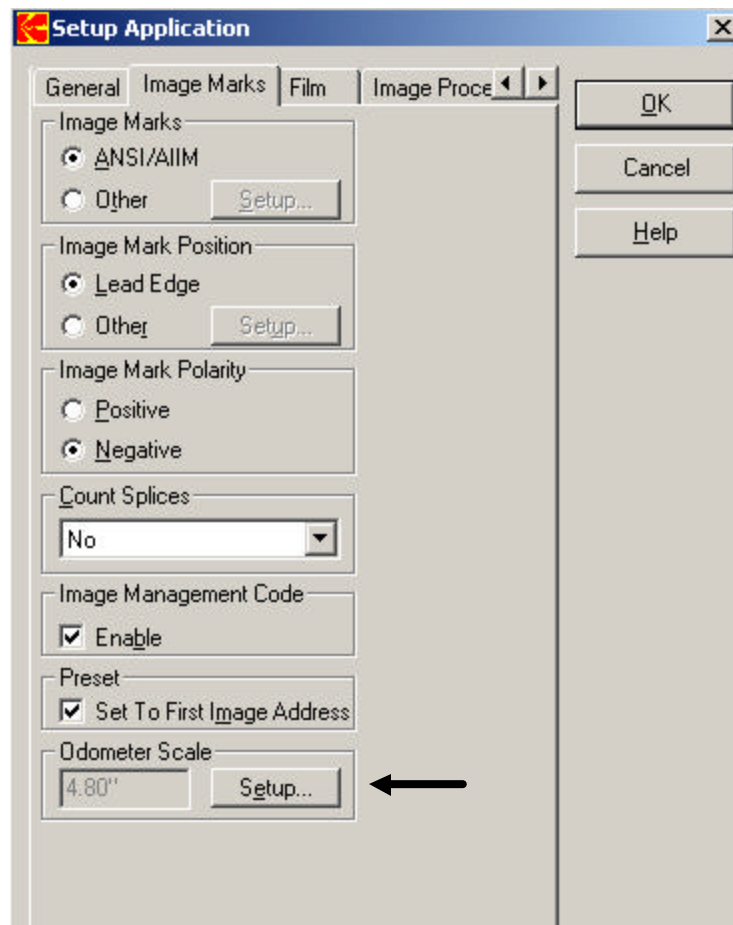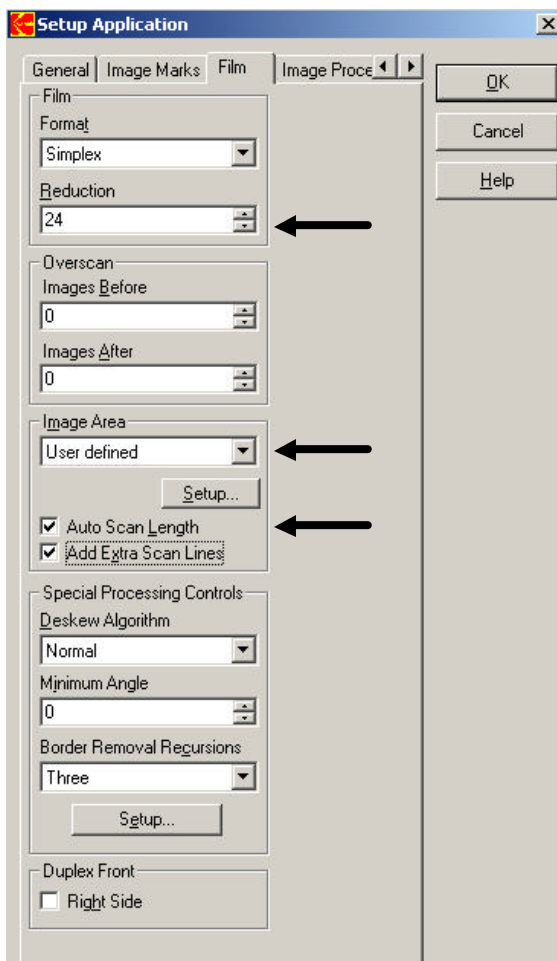
Odometer film, Film tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Film tab, see the section entitled "Setting values on the Film tab" in Chapter 4.

Template specific settings

1. Film – Reduction: **24**.
2. Image Area: **User Defined**.
3. Auto Scan Length: **Enabled**.

Explanation of settings (see the illustration that follows)

1. Film – Reduction: The reduction must be 50X.

2. Image Area: Since Auto Scan Length determines only the scan length, the Image Area setting must be used to determine scan width. A User Defined image area setting was used. This setting may need to be modified so that the specified scan width accommodates your specific needs, i.e., to eliminate the image marks (or other extraneous information outside the image) for display and processing. Be sure to specify an area that accommodates varying sized documents, and allows for potential image location irregularity on the film, to prevent truncation of any images.

3. Auto Scan Length: allows the software to determine scan length based upon the distance between image marks.

Odometer film, Image Processing tab template settings

The information below includes only the values that are different from the system default settings. For more information about the Image Processing tab, see the section entitled "Setting values on the Image Processing tab" in Chapter 4.
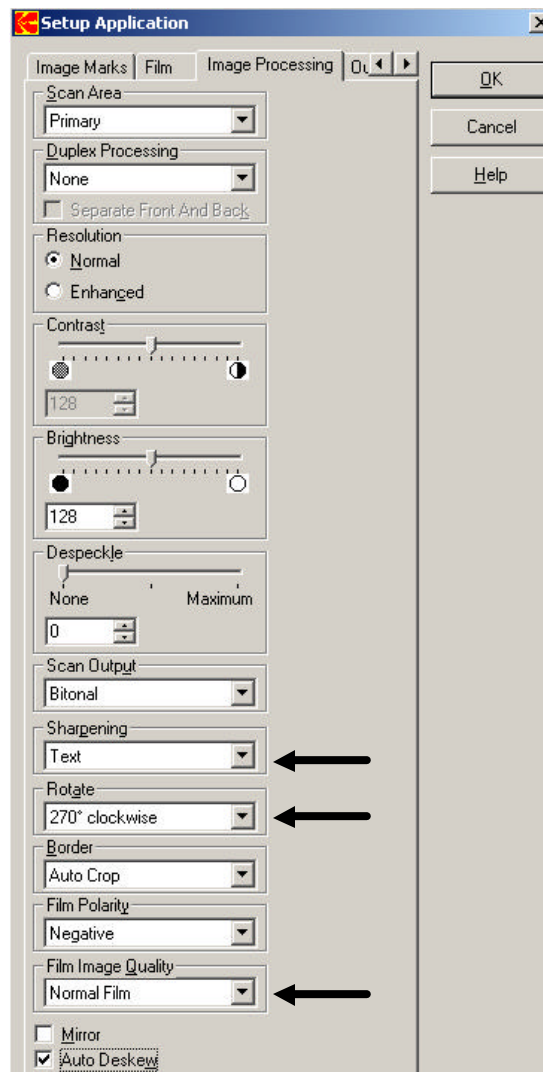
Template specific settings

1. Sharpening: **Text**.

2. Rotate: **270° clockwise**.

3. Film Image Quality: **Normal Film**.

Explanation of settings (see the illustration that follows)

1. Sharpening: Text provides the best clarity for documents that are primarily text.

2. Rotate: displays the images right side up.

3. Film Image Quality: improves the contrast of the image.

NOTE: Overscan should not be used with Odometer film.

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